

FIELD MAINTENANCE PRINT SET

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[illegible]

FP730

Field Maintenance Print Set

Digital Equipment Corporation

PRINT SET ORDER

NO. MPO1364

[illegible]

TW

SIZE	CODE	NUMBER	REV.
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[illegible]

REVISIONS	REV.		USED ON OPTION/MODEL	DRN.	A ROCHA	DATE	2-23-81	<div style="float: right; border: 1px solid black; padding: 2px;">digital</div> <div style="clear: both;"></div> FLOATING POINT ACCELERATOR FIELD MAINT. PRINT SET										
	CHANGE NO.			11730	CHK'D.	<i>D.M. Landry</i>	DATE											25-FEB-82
	CHK				PROJ. ENG.	<i>D.M. Landry</i>	DATE											25-FEB-82
					PROD.	<i>S.A. Paster</i>	DATE	25-FEB-82	SIZE	CODE	NUMBER				REV			
					SHEET 1 OF 2			B	DD	FP730-0				A				
								DIST.										

LINE	ITEM	DOCUMENT	NUMBER
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99	99	99	99
100	100	100	100

PART NUMBER

DESCRIPTION

00

1 1. B-DU-M8389-0

M8389-00

FPA (FLOATING POINT ACCELERATOR)

1

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RELEASEABLE

[illegible]

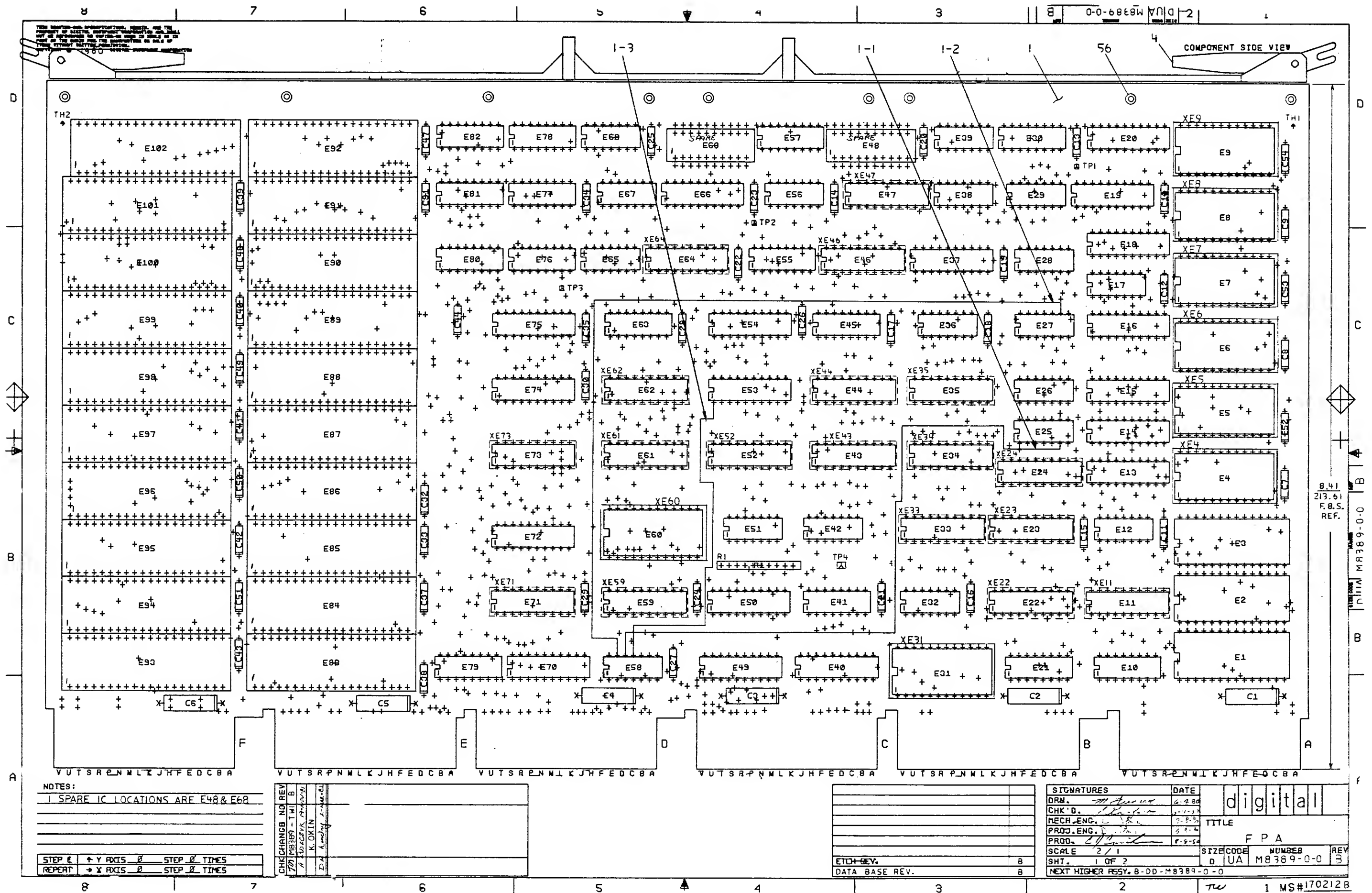
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ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D:	D. LANDRY	DATE: 03-MAR-82	TITLE	PARTS LIST	
---	INITIAL	A	SECTION. VARIATION INDEX	CHK'D:	D. LANDRY	DATE: 03-MAR-82	FLOATING POINT ACCELERATOR		
			[A] 00				(11730)		
			[B]	DES.ENG.:	D. LANDRY	DATE: 03-MAR-82			
			[C]					DOCUMENT NUMBER	
			[D]	RESP.ENG.:	D. LANDRY	DATE: 03-MAR-82	SIZE	CODE	NUMBER
			[E]						REV
			[F]	MFG.ENG.:	S. CASTIGLIONE	DATE: 03-MAR-82	K	PL	FP730-0-DBP
				ASSEMBL. NUMBER:		TOP DOCUMENT NUMBER:		FILE NAME:	EDIT #
						#B-DD-FP730-0		Z1872A1.PLS	3

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[illegible]

TW



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REWORK INSTRUCTIONS: (ECO 1)

WIRE ADDS SIDE 1:

1-1 E25-6 TO E58-12

1-2 E58-13 TO E27-9

1-3 E58-11 TO E53-1

D

C

B

A

D

C

B

A

REVISION HISTORY		
DATE	ECO NUMBER	REV

DRD 138A

8

7

6

5

4

3

2

1

TITLE

F.P.A.

DOCUMENT NUMBER			
SIZE	CODE	NUMBER	REV.
D	UA	M8389-0-0	B
SCALE		SHEET	2 OF 2
NONE			

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY	PER VARIATION	REFERENCE DESIGNATOR
1	1	D-MD-5013886-0-0	5013886-00	FPA	1		C1-C6
2	2		1012084-01	8 MFD 25V +75-10% AL EL	6		C7-C35, C37-C44, C47-C54
3	3		1012784-00	.047 MFD 50V +80-20% CER	45		
4	4		1216988-02	HANDLE, MODULE, HEX TWO EJECTORS	1		XE11, XE22-XE24, XE33-XE35, XE43,
5	5		1215006-04	SKT, IC 20PIN DIP TIN PLATE	18	CONT	XE44, XE46, XE47, XE52, XE59, XE61,
						CONT	XE62, XE64, XE71, XE73
							XE4-XE9, XE31, XE60
6	6		1215006-06	SKT, IC 24PIN DIP TIN PLATE	8		R1
7	7		1312114-01	R NETWORK 8-470 5.0 % 10PIN	1		E41
8	8		1312628-00	R NETWORK 14-176.5 14-375 16PIN	1		E26, E28, E32, E58
9	9		1910532-00	74500 NAND GATE-QUAD 2IN	4		E39, E42
10	10		1910534-00	74504 INVERTER GATE-HEX 1I	2		E39, E56
11	11		1910536-00	74510 NAND GATE-TRIPLE 3IN	2		E17
12	12		1910539-00	74520 NAND GATE-DUAL 4INPU	1		E27, E36
13	13		1910544-00	74574 FF-D DUAL, EDGE TRIGG	2		E57
14	14		1910547-00	745153 MUX 1 OF 4 (DUAL)	1		E55
15	15		1911675-00	745138 DECODER/DEMUX 3-8 LIN	1		E12
16	16		1911712-00	74551 AND-OR GATE-INVERT D	1		E65
17	17		1912096-00	74586 XOR GATE, QUAD 2IN	1		E76, E78-E82
18	18		1912097-00	SN 745182 LOOK AHD, CARRY GEN	6		E25, E29
19	19		1912389-00	74508 AND GATE-QUAD 2IN, PO	2		E63
20	20		1912646-00	LS253 MUX 1 OF 4 (DUAL)	1		E51, E67, E69
21	21		1912746-00	DEC 74537 NAND GATE-QUAD 2IN	3		E10, E21
22	22		1912867-00	LS298 MUX 1 OF 4 2IN W/S	2		E83-E102
23	23		1913245-02	2901A-1 MICROPROCESSOR 4-	20		E53, E54, E75
24	24		1913493-00	745241 OCTAL BUFFER, TRI-STA	3		E13, E18-E20, E37, E50, E66, E72
25	25		1913671-00	745374 FF-D OCTAL TRISTATE	8		E1-E3
26	26		1913772-00	AM 2909DC MICROPROGRAM SEQUEN	3		E16
27	27		1914214-00	LS374 FF-D OCTAL EDGE TRIG	1		E30, E45, E77
28	28		1914866-00	AM 93S48PCGEN/CHECK PARITY, 4B	3		

REVISION HISTORY		BASIC PART NO: M8389		DRN: J. FERGUSON		DATE: 23-JUN-80		D I G I T A L	
ENG	ECO NUMBER	REV	SECTION A OF A	CHK'D: F. GAROFALO		DATE: 23-JUN-80		TITLE PARTS LIST	
---	INITIAL	A	SECTION VARIATION INDEX	DES.ENG.: D. STONER		DATE: 29-JUL-80		FPA	
KO	M8389-TW001	B	(A) 00	RESP.ENG.: D. STONER		DATE: 29-JUL-80		DOCUMENT NUMBER	
			(B)	MFG.ENG.: J. CONSIDINE		DATE: 8-AUG-80		SIZE CODE NUMBER REV	
			(C)	ASSEMBLY NUMBER:		TOP DOCUMENT NUMBER:		K PL M8389-0-D8P B	
			(D)	D-UA-M8389-0-0		B-DD-M8389-0-0		FILE NAME: Z12688.PLS EDIT # 5	
			(E)						
			(F)						
			(G)						
			(H)						
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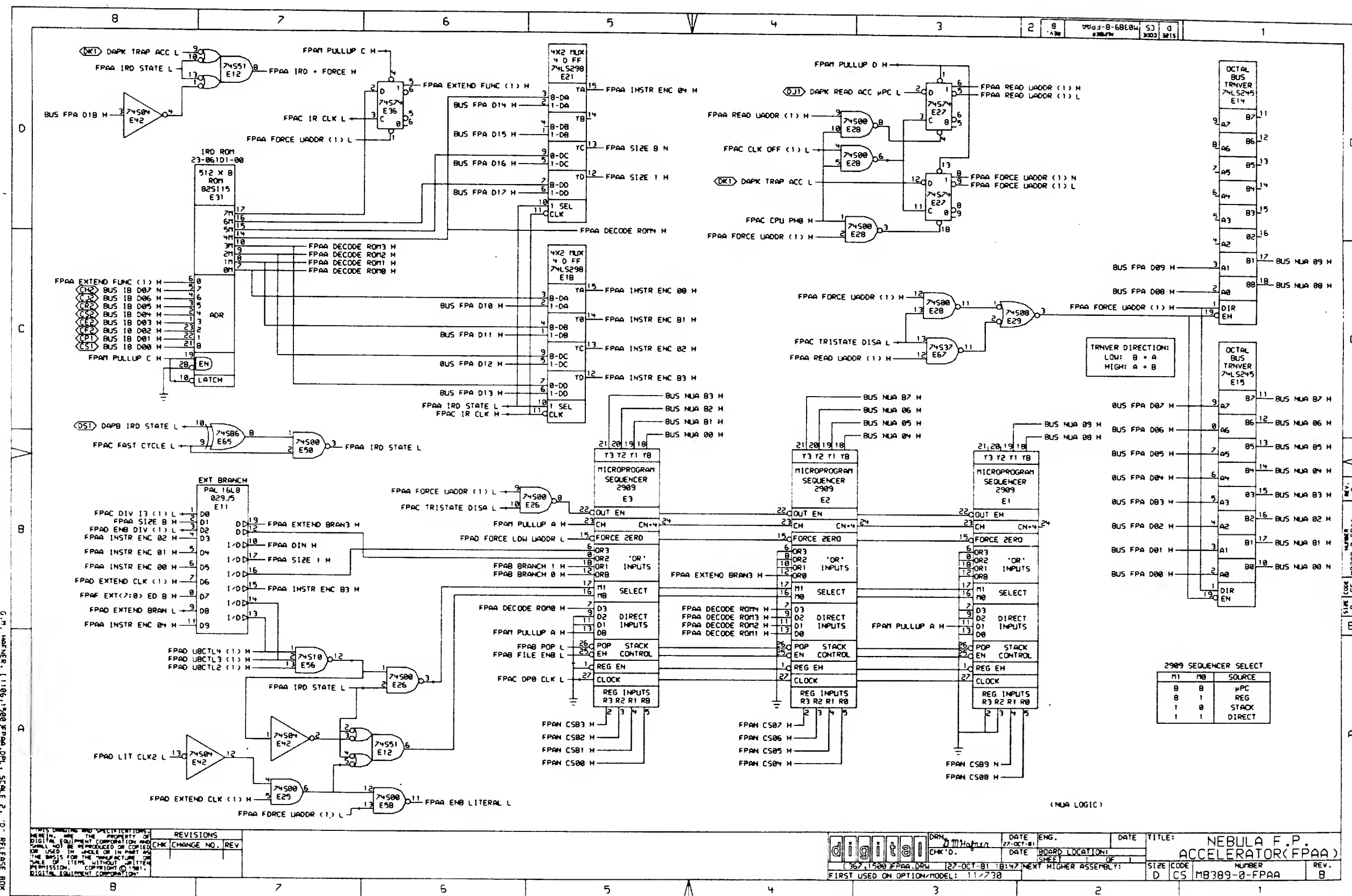
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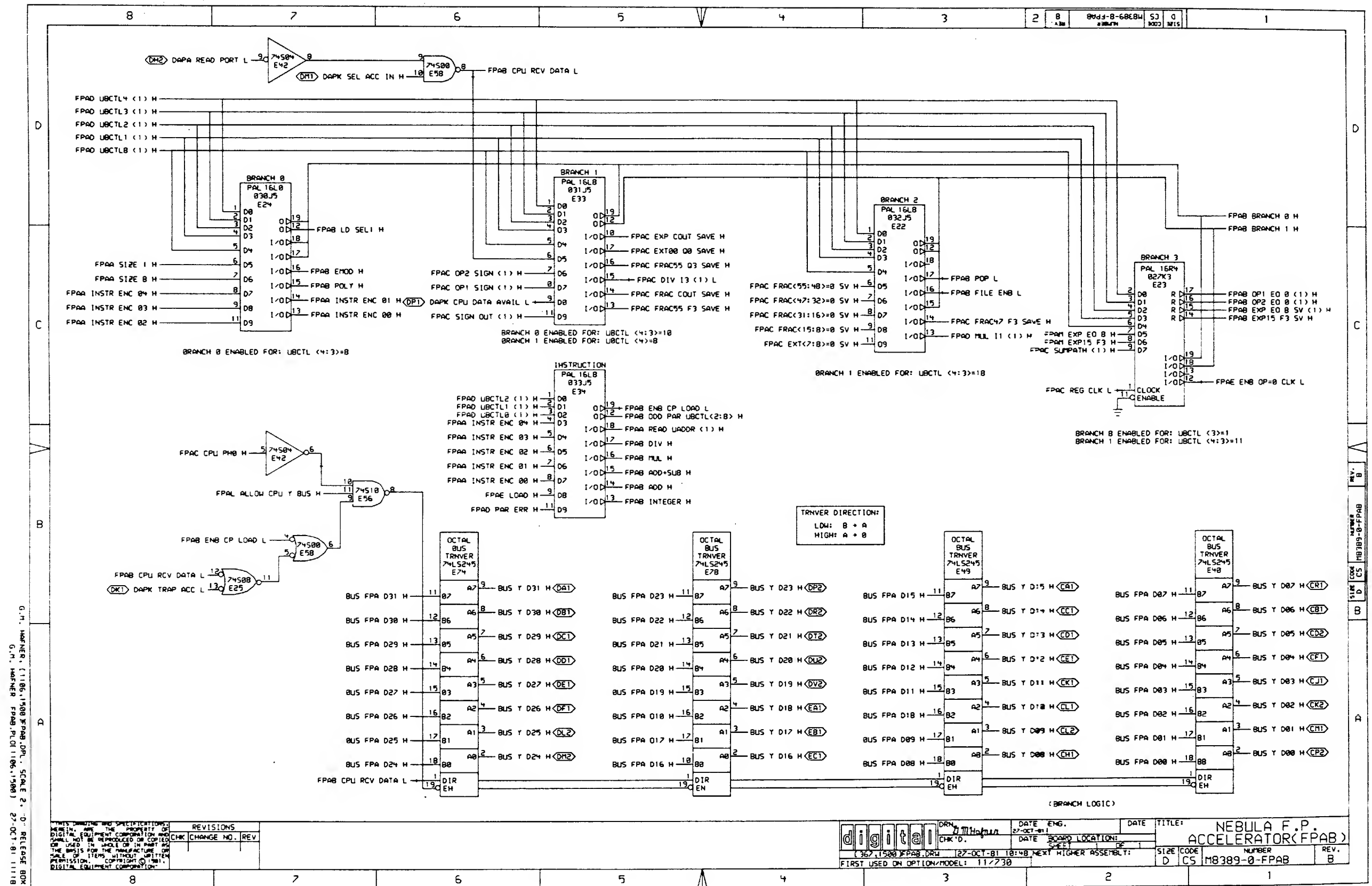
PARTS LIST

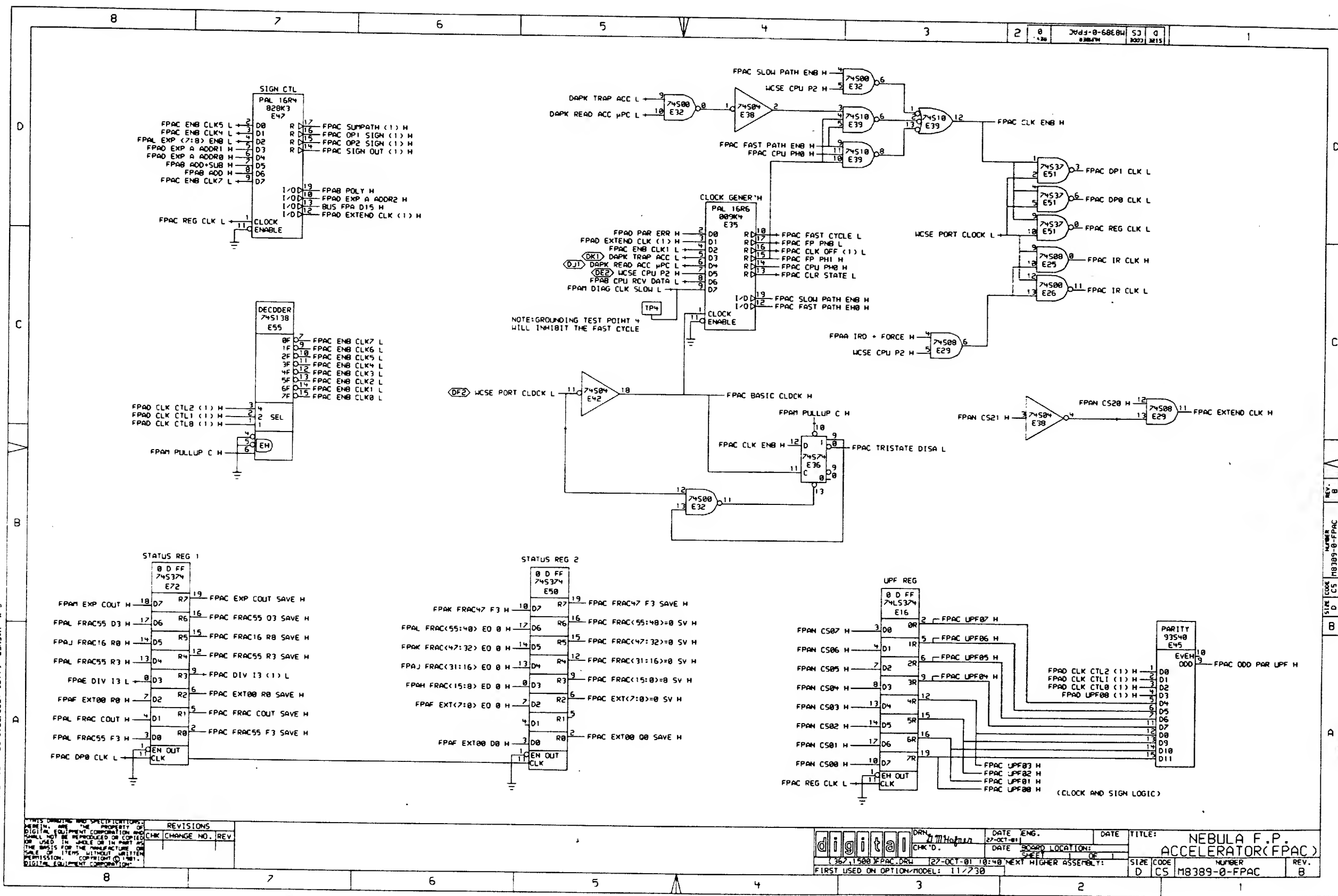
SHEET A2 OF A2

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION 00	REFERENCE DESIGNATOR
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30	31		23009K4-00	K4-01	1	E25
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35	36		23030J5-00	J5-01	1	E24
36	37		23030K3-00	K3-01	1	E44
37	38		23031J5-00	J5-01	1	E33
38	39		23031K3-00	K3-01	1	E43
39	40		23032J5-00	J5-01	1	E22
40	41		23033J5-00	J5-01	1	E34
41	42		23034J5-00	J5-01	1	E71
42	43		23035J5-00	J5-01	1	E62
43	44		23036J5-00	J5-01	1	E63
44	45		23037J5-00	J5-01	1	E61
45	46		23038J5-00	J5-01	1	E64
46	47		23039J5-00	J5-01	1	E64
47	48		23040J5-00	J5-01	1	E73
48	49		2306101-00	D1-02	1	E69
49	50		23137F3-00	/REPLACED BY 23-161F3-00	1	E61
50	51		23138F3-00	/REPLACED BY 23-162F3-00	1	E65
51	52		23139F3-00	/REPLACED BY 23-163F3-00	1	E64
52	53		23140F3-00	/REPLACED BY 23-164F3-00	1	E66
53	54		23141F3-00	/REPLACED BY 23-165F3-00	1	E68
54	55		23142F3-00	/REPLACED BY 23-166F3-00	1	E67
55	56		23113F3-00	F3-03	1	E69
56	57		9009000-00	EYELET,ROLL FLANGE .12100X .155	13	E60
57	58		9009149-00	PIN, STAKING, F.C. BOARD .025 X	4	
58	59		9105740-55	WIRE(WRAP)30AWG .01423	A/R	TP1-TP4

D	I	G	I	T	A	L	TITLE	SECTION A OF A	SIZE	CODE	DOCUMENT NUMBER	REV
							FPA		K	PL	M8389-D-DBP	B





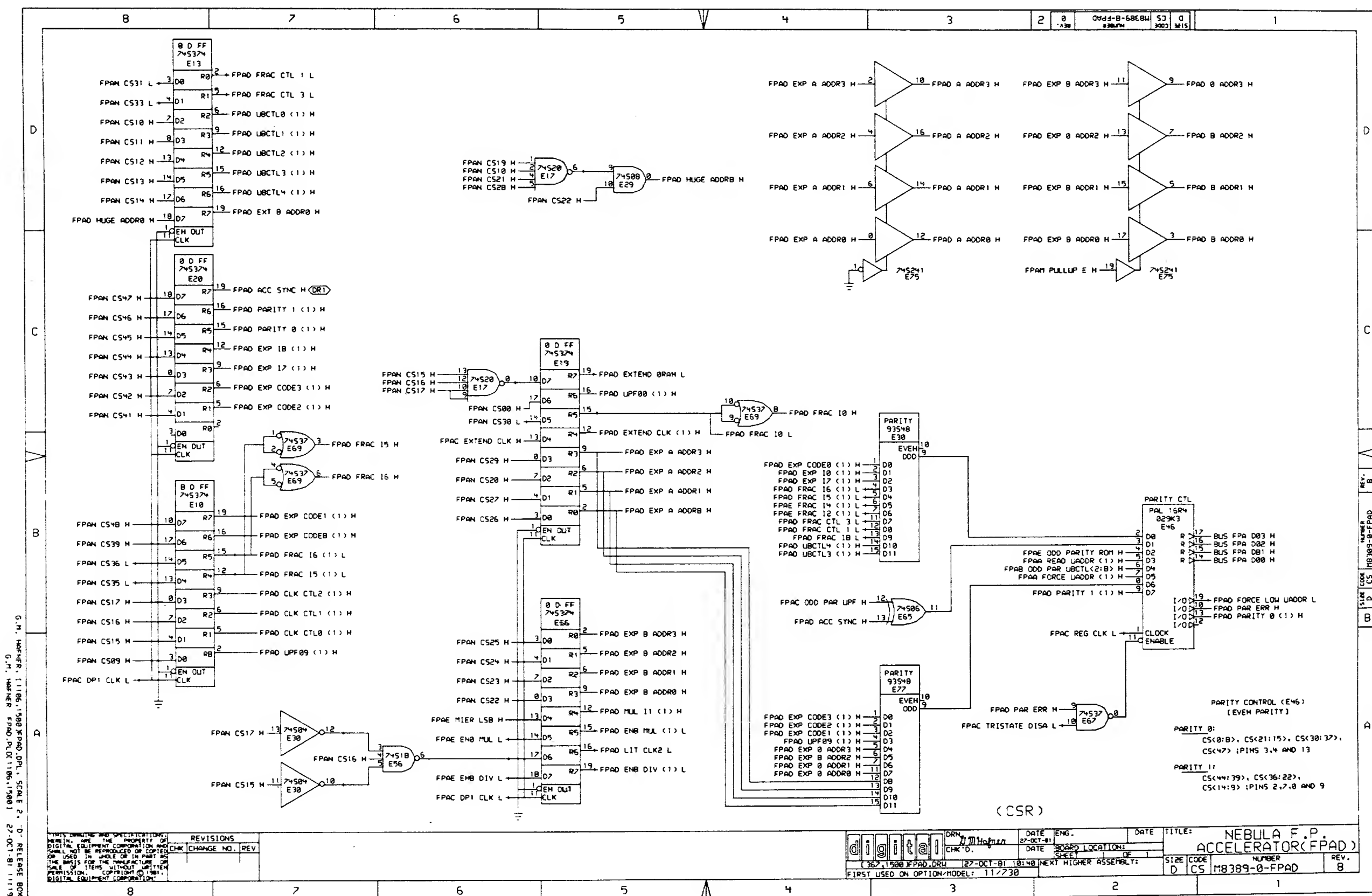


G.H. WARNER, (1186, 1508) FPAC DPL, SCALE 2, 0 - RELEASE BOX
G.H. WARNER, FPAC, PLOT (1186, 1508) 27-OCT-81 11:18

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REVISIONS		
CHK	CHANGE NO.	REV.

digital		DATE	ENG.	DATE	TITLE:
1367, 1508 FPAC DPL		27-OCT-81			NEBULA F.P.
FIRST USED ON OPTION MODEL: 11/730		DATE	BOARD LOCATION:		ACCELERATOR (FPAC)
SIZE	CODE	NUMBER	REV.		
D	CS	M8389-0-FPAC	B		

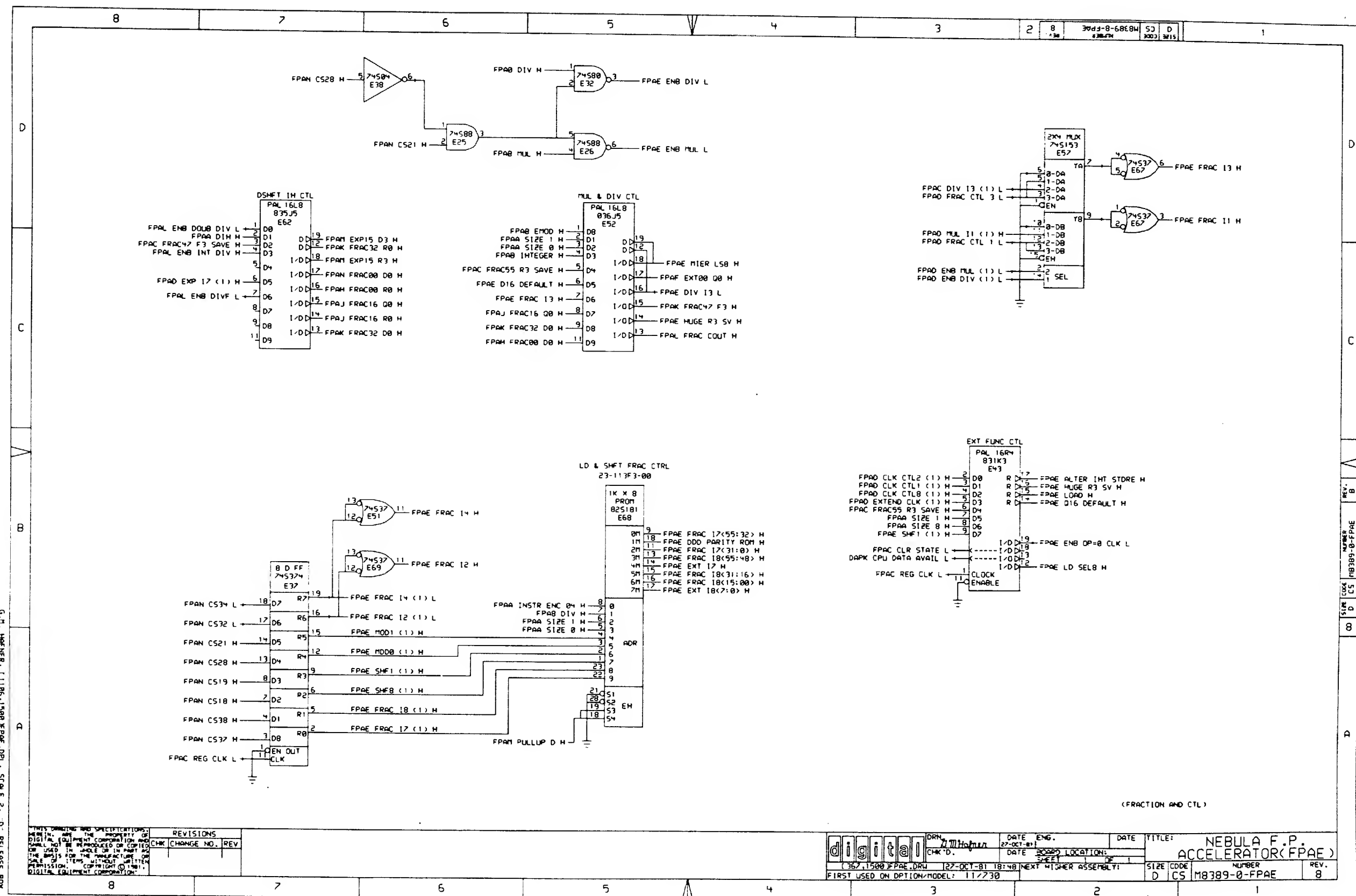


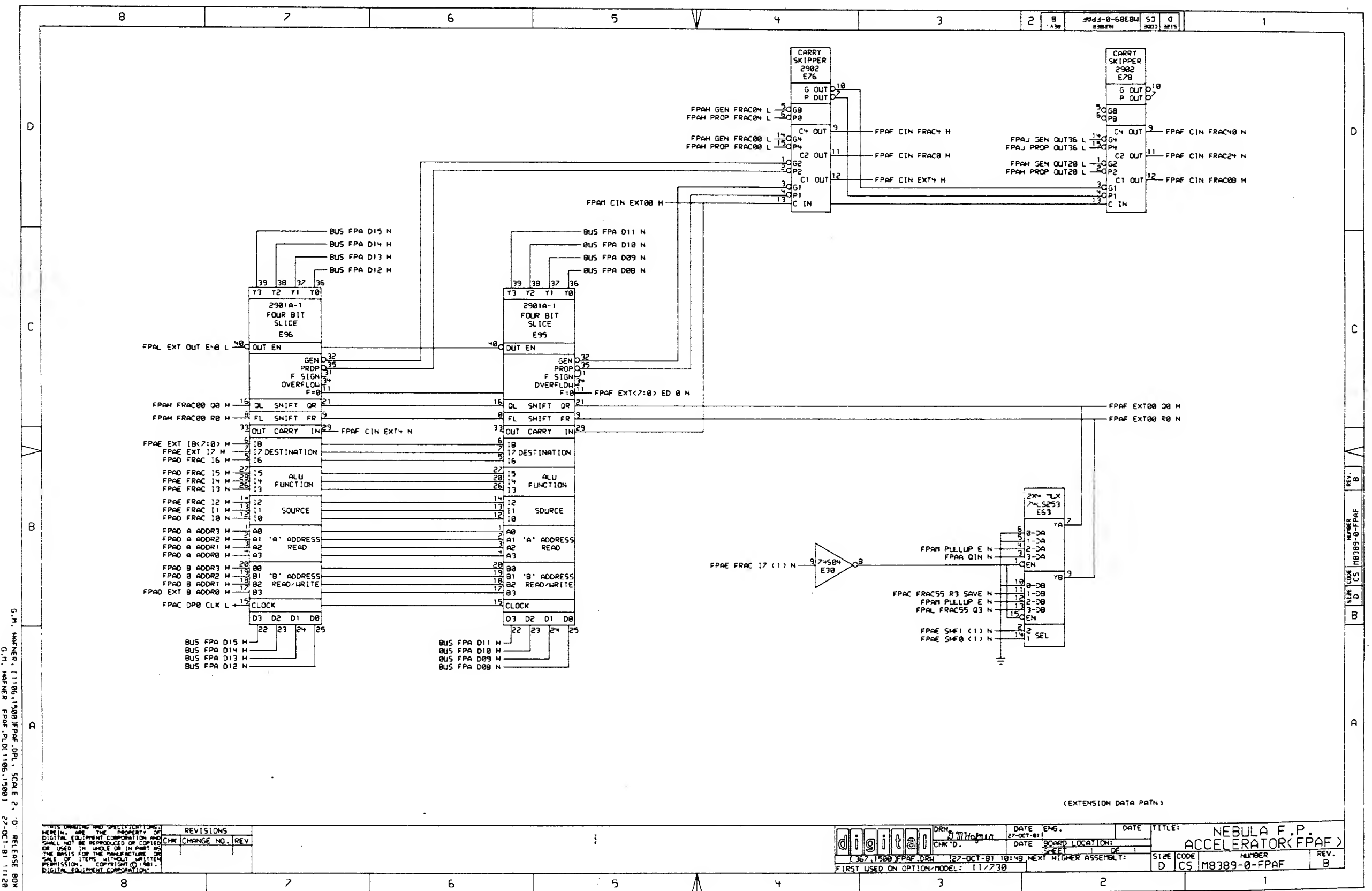
G.M. HOFFER, 11186-1508 FPAD.DRW, SCALE 2:1, RELEASE BOX
G.M. HOFFER, 11186-1508 FPAD.DRW, SCALE 2:1, RELEASE BOX

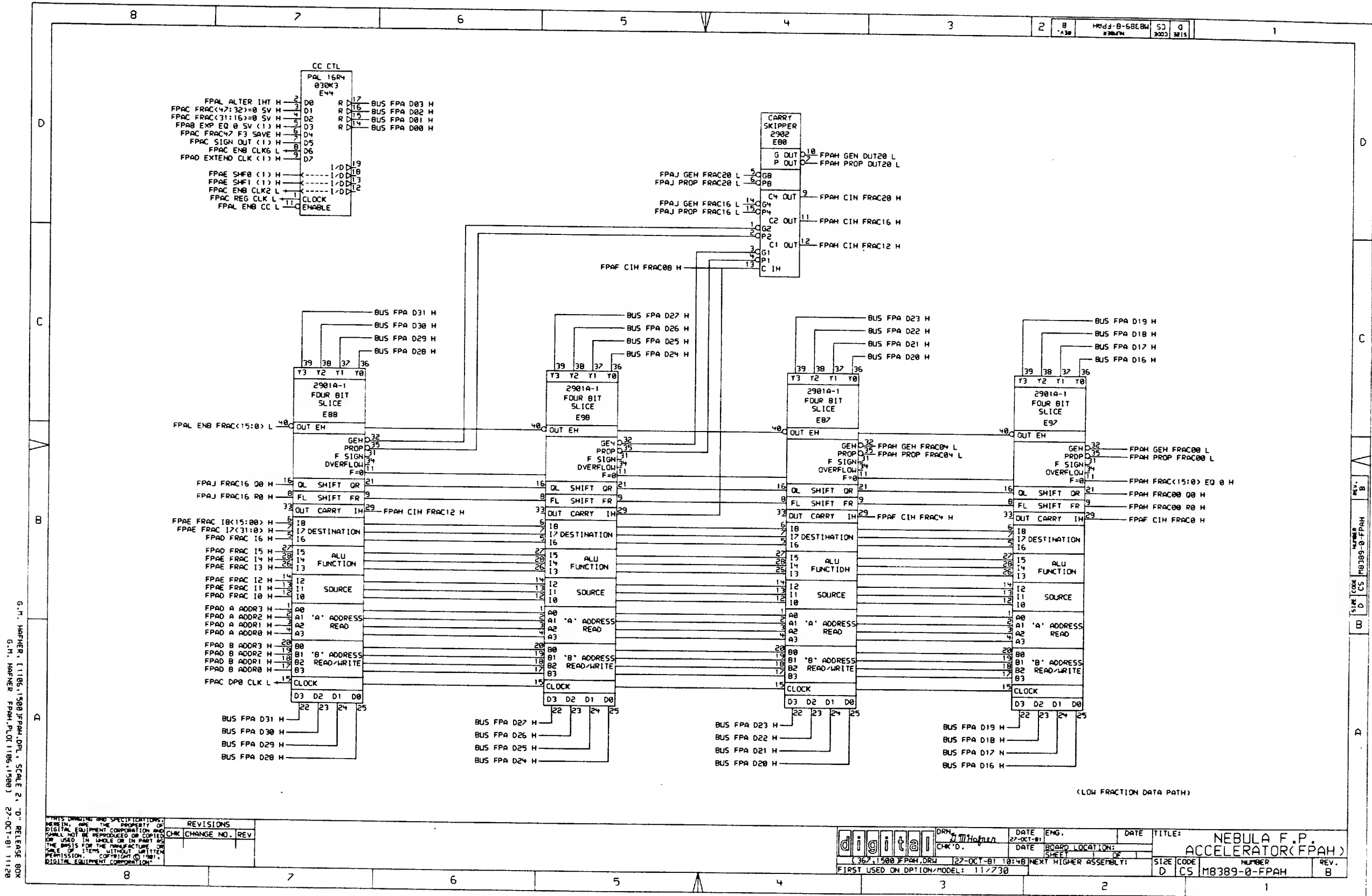
REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE
	27-OCT-81	10140	10140	NEBULA F.P. ACCELERATOR (FPAD)
FIRST USED ON OPTION/MODEL: 11/230		NEXT HIGHER ASSEMBLY:		

SIZE	CODE	NUMBER	REV.
D	CS	M8389-0-FPAD	8





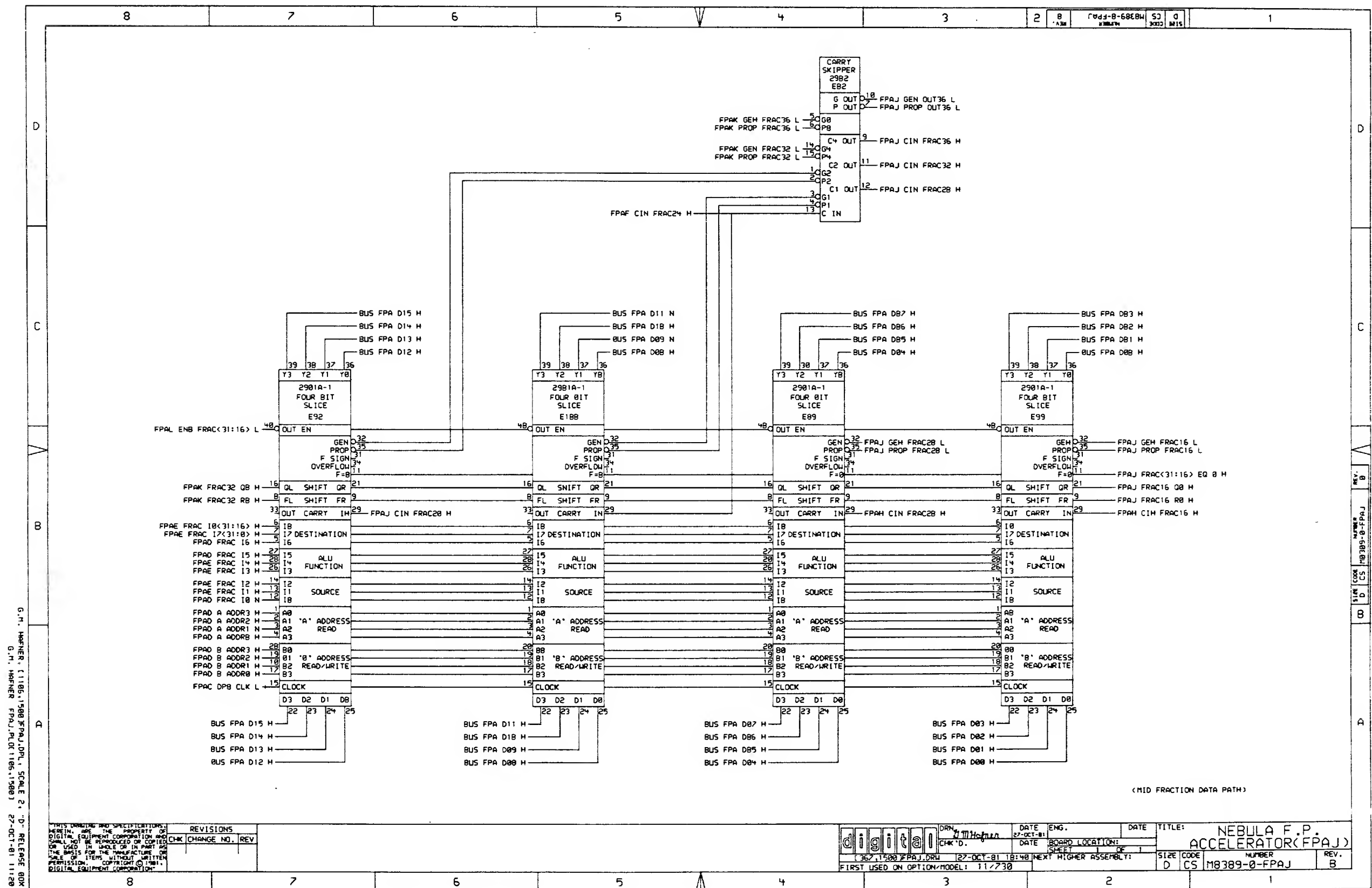


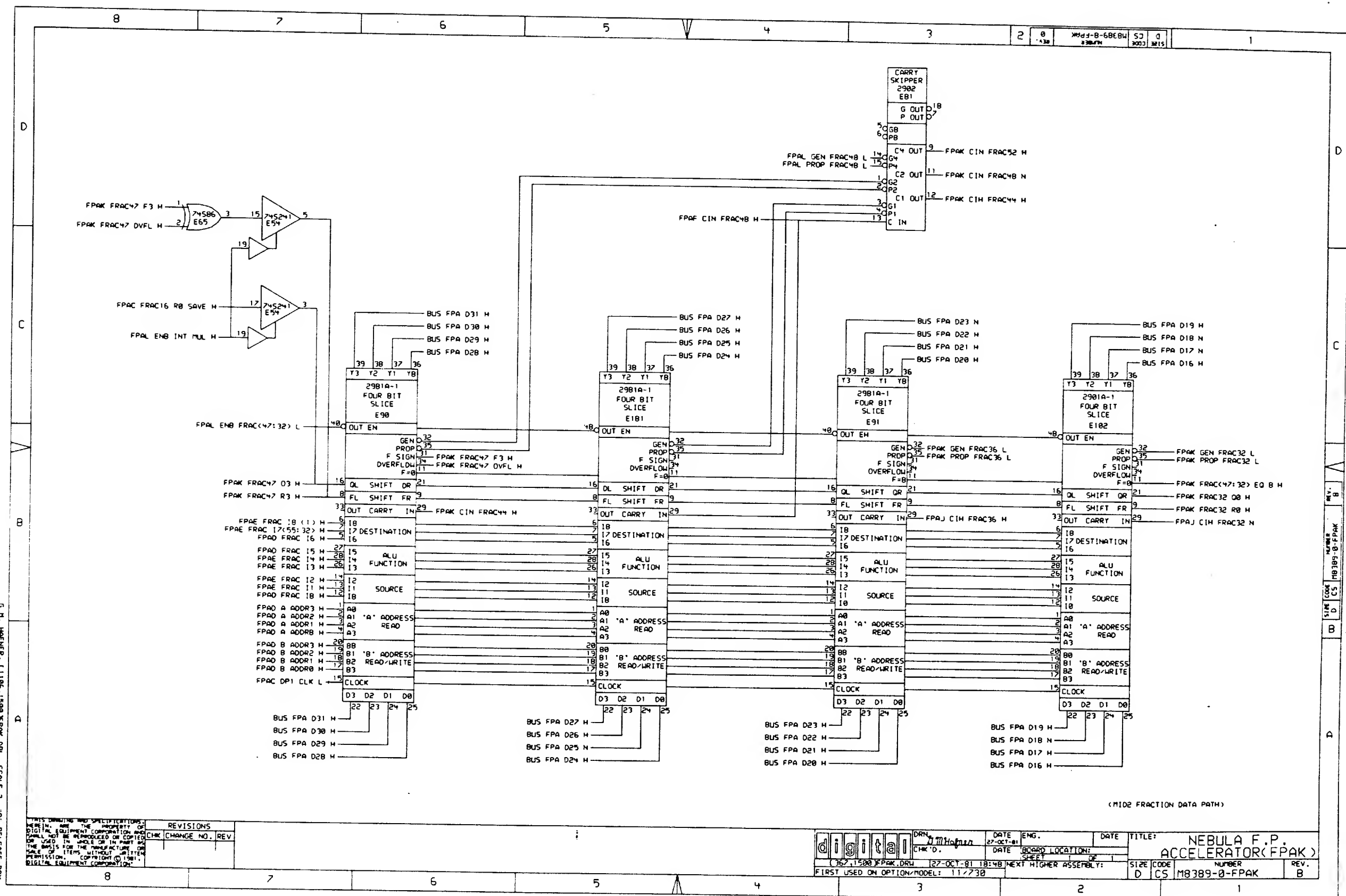
G.M. HAFNER, 11106, 1500 FPAH.DPL, SCALE 2, "D" RELEASE BOX
G.M. HAFNER, FPAH.DPL, 11106, 1500, 27-OCT-81 11:20

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE:
	27-OCT-81	W.H. HAFNER	27-OCT-81	NEBULA F.P. ACCELERATOR (FPAH)
FIRST USED ON OPTION/MODEL: 11/2730		BOARD LOCATION:		SIZE CODE
				D CS
				NUMBER
				M8389-0-FPAH
				REV.
				B



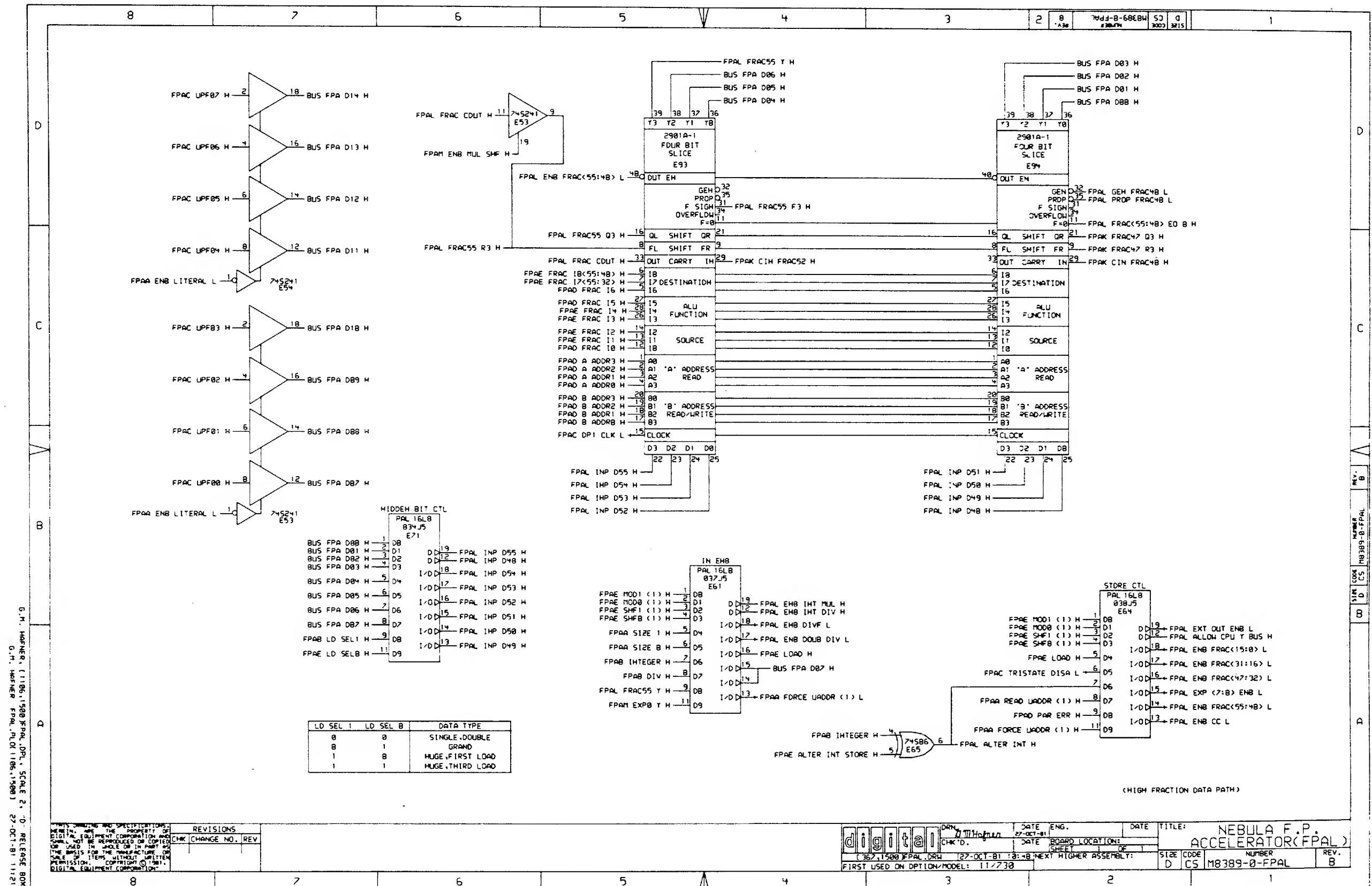


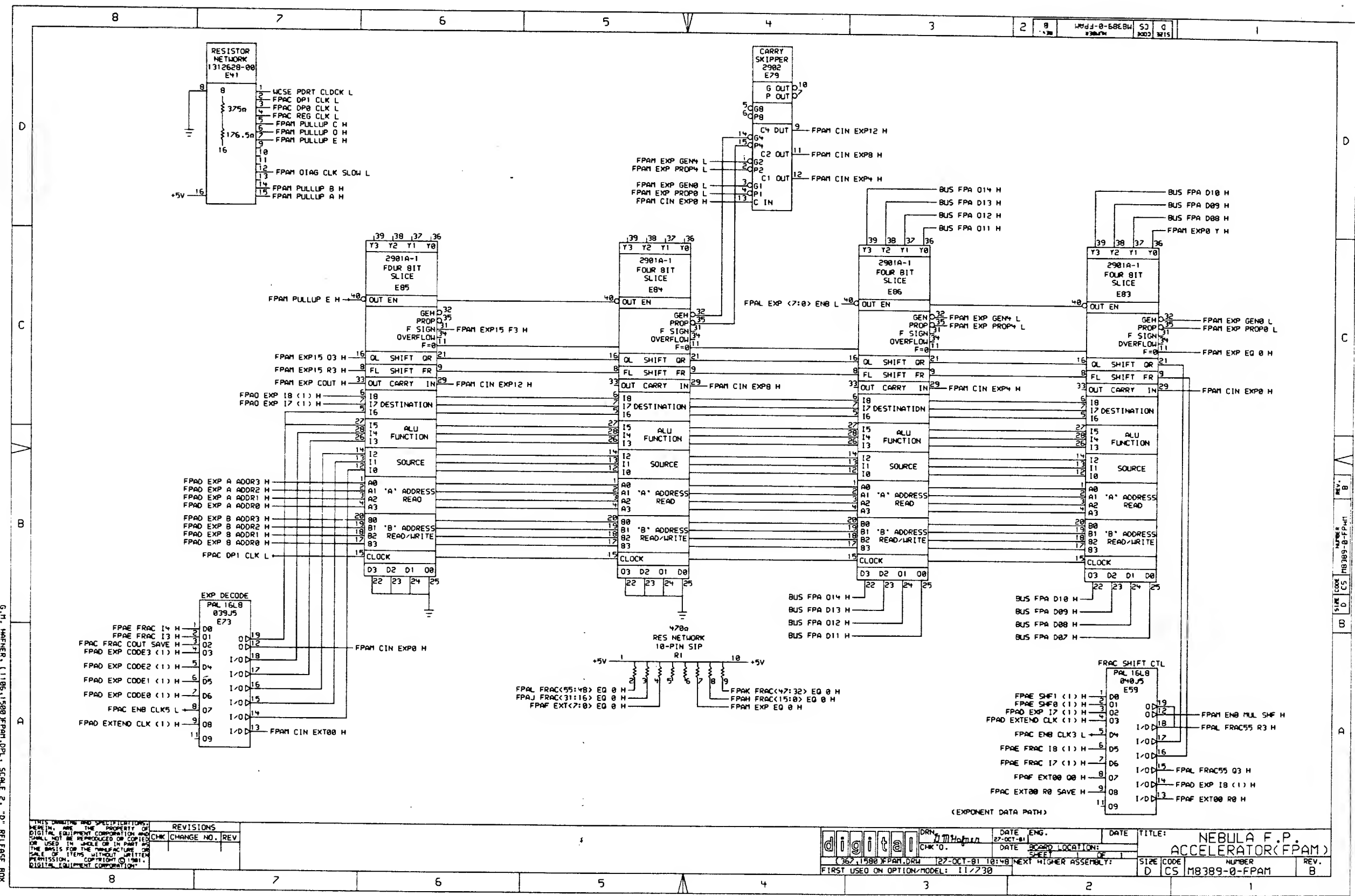
G.M. HARTER, [1185, 1500] FPAK.DRW, SCALE 2, 0, RELEASE BOX
G.M. HARTER FPAK.PLOT [1185, 1500] 27-OCT-81 11:21

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DRN. <i>M. Hartner</i>	DATE <i>27-OCT-81</i>	ENG.	DATE	TITLE: NEBULA F.P. ACCELERATOR (FPAK)
	CHK'D.	DATE	BOARD LOCATION:	SHEET <i>1</i> OF <i>1</i>	SIZE CODE D CS
FIRST USED ON OPTION/MODEL: <i>117730</i>			NEXT HIGHER ASSEMBLY:		NUMBER M8389-0-FPAK
					REV. B



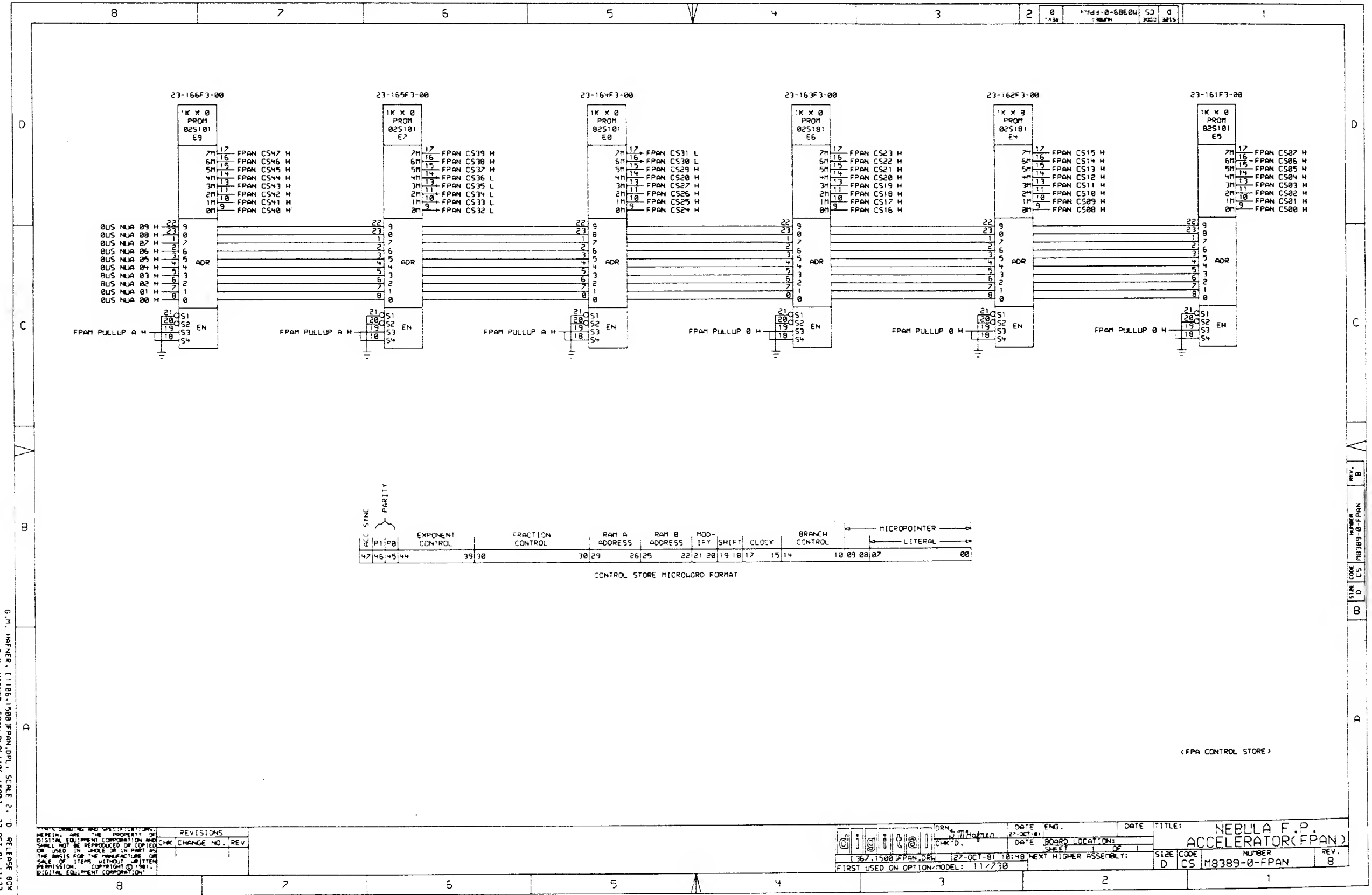


G.M. WAFNER, (1186,1580) F.P. ACCEL. SCALE 2"=1" D. RELEASE BOX
G.M. WAFNER, F.P. ACCEL. (1186,1580) 27-OCT-81 11:21

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REVISIONS
CHK CHANGE NO. REV

digital	DATE	ENG.	DATE	TITLE
	27-OCT-81	WAFNER	27-OCT-81	NEBULA F.P. ACCELERATOR (FPAM)
FIRST USED ON OPTION/MODEL: 117230		NEXT HIGHER ASSEMBLY:		SIZE CODE
				D CS
				NUMBER
				M8389-0-FPAM
				REV.
				B



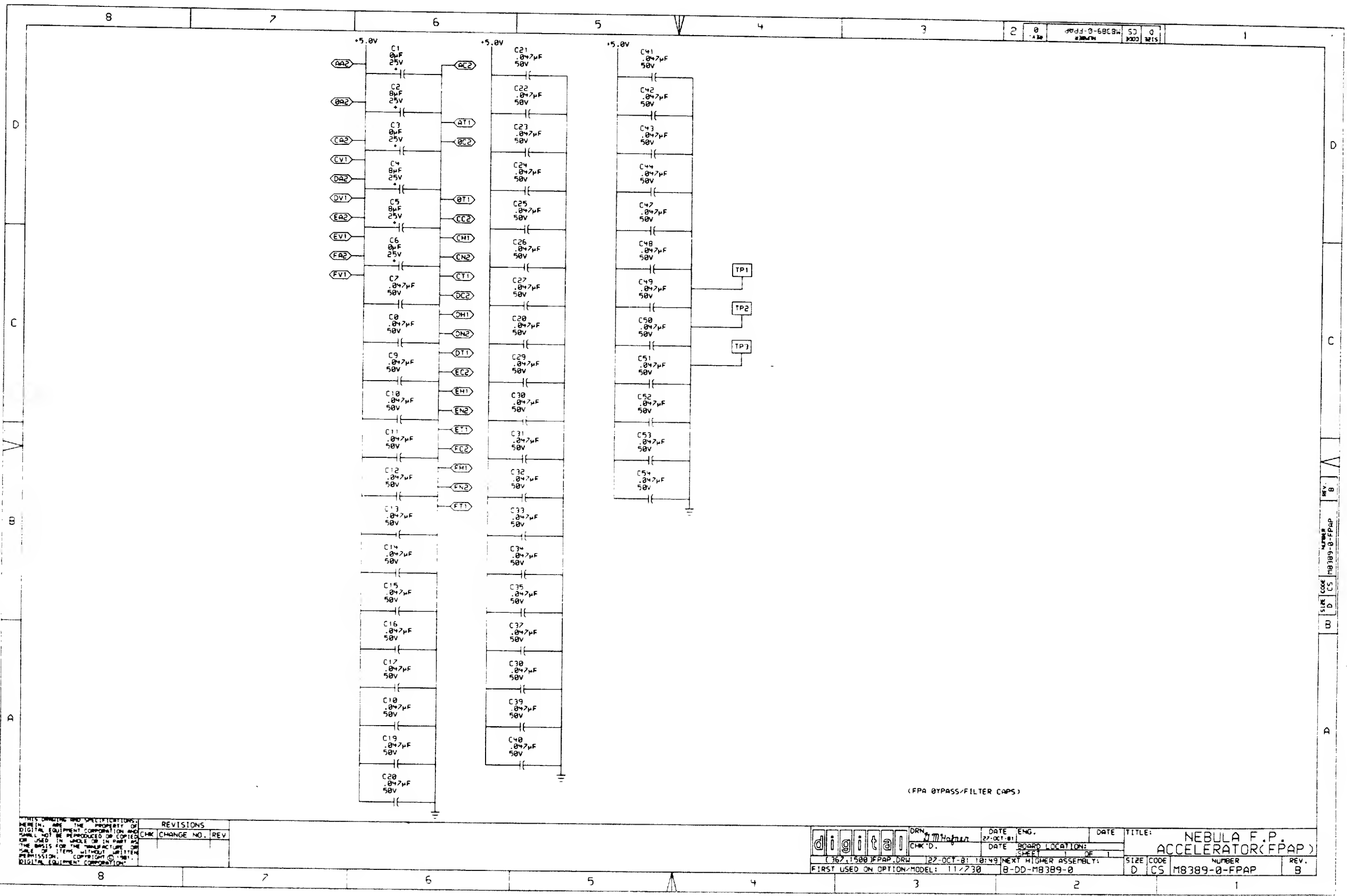
G.H. HARPER, 11106, 1500 JFAN, DPL, SCALE 2, D, RELEASE BOX
G.H. HARPER, 11106, 1500 JFAN, DPL, SCALE 2, D, RELEASE BOX
27-OCT-81 11:22

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REVISIONS	
CHG	CHANGE NO. REV

DATE ENG. 27-OCT-81		DATE 27-OCT-81		TITLE: NEBULA F.P. ACCELERATOR (FPA)	
DRN. M. HARPER		SHEET 1		REV. 8	
CHK'D.		NEXT HIGHER ASSEMBLY:		SIZE CODE D CS	
FIRST USED ON OPTION/MODEL: 11/730		1362, 1500 JFAN, DPL		NUMBER M8389-0-FPAN	

G. M. HOFNER, 1106, 1500 FPAP, DPL, SCALE 2:1, D RELEASE BOX
G. M. HOFNER FPAP, PLOT 1106, 1500, 27 OCT 81 11:22



8		7		6		5		4		3		2		1					
PART NUMBER: 23-029J5-00		PART NUMBER: 23-030J5-00		PART NUMBER: 23-031J5-00															
DEVICE TYPE: PAL16L8		DEVICE TYPE: PAL16L8		DEVICE TYPE: PAL16L8															
SCHEMATIC SHEET #1:D-CS-M8389-0-FPAA		SCHEMATIC SHEET #1:D-CS-M8389-0-FPAB		SCHEMATIC SHEET #1:D-CS-M8389-0-FPAC															
LOCATION/DESCRIPTION: E11/ EXTENDED BRANCH PAL		LOCATION/DESCRIPTION: E24/ BRANCH 0 PAL		LOCATION/DESCRIPTION: E33/ BRANCH 1 PAL															
ASSIGNED PIH NUMBER:		ASSIGNED PIH NUMBER:		ASSIGNED PIH NUMBER:															
1= /13.L 2= SIZE0.H 3= ENB.DIV.L 4= INS.ENC2.H 5= INS.ENC1.H 6= INS.ENC0.H 7= EXT.CLK.H		8= EXT7.H 9= EXT.BRAN.L 10= GND 11= INS.ENC4.H 12= XBRAN1.H 13= UBCTL4.H 14= UBCTL3.H 15= INS.ENC3.H 16= XBRAN2.H 17= SIZE1.H 18= GND 19= XBRAN3.H 20= VCC		1= UBCTL4.H 2= UBCTL3.H 3= UBCTL2.H 4= UBCTL1.H 5= UBCTL0.H 6= SIZE1.H 7= SIZE0.H 8= INS.EN4.H 9= INS.EN3.H 10= GND 11= INS.EN2.H 12= LD.SEL1.H 13= INS.EN0.H 14= INS.EN1.H 15= POLY.H 16= EMOD.H 17= BRAN30.H 18= BRAN20.H 19= BRAN10.H 20= VCC		1= UBCTL4.H 2= UBCTL3.H 3= UBCTL2.H 4= UBCTL1.H 5= UBCTL0.H 6= CPU.RCV.L 7= OP25.H 8= OP15.H 9= CPU.AV.L 10= GND 11= SIGN.OUT.H 12= BRAN1.H 13= FRAC55.F3.H 14= FRAC.COUT.H 15= /13.L 16= F55.Q3.H 17= EXT00.H 18= EXP.COUT.H 19= BRAN0.H 20= VCC													
EQUATIONS:		EQUATIONS:		EQUATIONS:															
IF(VCC) /XBRAN1.H:=EXT.CLK.H +/EXT.BRAN.L +UBCTL4.H=UBCTL3.H=INS.ENC0.H +UBCTL4.H=UBCTL3.H +UBCTL4.H=UBCTL3.H +UBCTL4.H=UBCTL3.H +UBCTL4.H=UBCTL3.H=INS.ENC0.H		IF(VCC) /XBRAN2.H:=EXT.CLK.H +/EXT.BRAN.L +UBCTL4.H=UBCTL3.H=INS.ENC1.H +UBCTL4.H=UBCTL3.H=SIZE0.H +UBCTL4.H=UBCTL3.H=INS.ENC1.H +UBCTL4.H=UBCTL3.H IF(VCC) /XBRAN3.H:=EXT.CLK.H +/EXT.BRAN.L +UBCTL4.H=UBCTL3.H=INS.ENC2.H +UBCTL4.H=UBCTL3.H=INS.ENC4.H=INS.ENC3.H +UBCTL4.H=UBCTL3.H=INS.ENC1.H +UBCTL4.H=UBCTL3.H=INS.ENC2.H IF(VCC) /GND.H:=ENB.DIV.L +/13.L		IF(UBCTL4.H=UBCTL3.H) /BRAN0.H:=UBCTL2.H=INS.EN4.H +UBCTL2.H=INS.EN3.H +UBCTL2.H=INS.EN2.H +UBCTL2.H=INS.EN1.H +UBCTL2.H=INS.EN0.H +UBCTL2.H=SIZE1.H +UBCTL2.H=SIZE0.H IF(UBCTL4.H=UBCTL3.H) /BRAN20.H:=SIZE1.H +/UBCTL0.H=SIZE0.H +UBCTL0.H=INS.EN4.H +UBCTL0.H=INS.EN3.H +UBCTL0.H=INS.EN2.H IF(VCC) /EMOD.H:=INS.EN0.H +/INS.EN1.H +/INS.EN2.H +/INS.EN3.H +/INS.EN4.H IF(VCC) /POLY.H:=INS.EN4.H +/INS.EN3.H +/INS.EN2.H +/INS.EN1.H +/INS.EN0.H IF(VCC) /LD.SEL1.H:=SIZE1.H +/SIZE0.H		IF(UBCTL4.H=UBCTL3.H) /BRAN0.H:=UBCTL2.H=UBCTL1.H=UBCTL0.H=EXP.COUT.H +UBCTL2.H=UBCTL1.H=UBCTL0.H=SIGN.OUT.H +UBCTL2.H=UBCTL1.H=CPU.AV.L +UBCTL2.H=UBCTL1.H=UBCTL0.H=FRAC.COUT.H +UBCTL2.H=UBCTL1.H=UBCTL0.H=OP15.H +UBCTL2.H=UBCTL1.H=UBCTL0.H=FRAC55.F3.H +UBCTL2.H=UBCTL1.H=UBCTL0.H=OP25.H													
23-029J5-00		23-030J5-00		23-031J5-00															
TITLE: F.P. ACCEL. ROM AND PAL LISTINGS		TITLE: F.P. ACCEL. ROM AND PAL LISTINGS		TITLE: F.P. ACCEL. ROM AND PAL LISTINGS															
DATE: 27-OCT-81		DATE: 27-OCT-81		DATE: 27-OCT-81															
SHEET: 01 OF 21		SHEET: 01 OF 21		SHEET: 01 OF 21															
FIRST USED ON OPTION/MODEL: 11/730		FIRST USED ON OPTION/MODEL: 11/730		FIRST USED ON OPTION/MODEL: 11/730															
REV. A		REV. A		REV. A															

8	7	6	5	4	3	2	1																										
<p>PART NUMBER: 23-032J5-00 DEVICE TYPE: PAL16L0 SCHEMATIC SHEET #:D-CS-M8389-0-FPAB LOCATION/DESCRIPTION: E22/ BRANCH 2 PAL ASSIGNED PIN NUMBER:</p>																																	
1= UBCTL4.H 2= UBCTL3.H 3= UBCTL2.H 4= UBCTL1.H 5= UBCTL0.H 6= FRAC55.H 7= FRAC47.H	8= FRAC31.H 9= FRAC15.H 10= GND 11= EXT7.H 12= BRAN21.H 13= MUL.II.H 14= F47.F3.H	15= BRAN31.H 16= FE.L 17= PUSH.L 18= NC 19= BRAN11.H 20= VCC																															
EQUATIONS:																																	
IF(UBCTL4.H==UBCTL3.H==UBCTL2.H) /BRAN11.H:=UBCTL1.H/UBCTL0.H==MUL.II.H +UBCTL1.H==UBCTL0.H==F47.F3.H +UBCTL1.H==UBCTL0.H==FRAC55.H +UBCTL1.H==UBCTL0.H==FRAC47.H +UBCTL1.H==UBCTL0.H==FRAC31.H																																	
IF(VCC) /PUSH.L:=UBCTL4.H==UBCTL3.H==UBCTL2.H																																	
IF(VCC) /FE.L:=UBCTL4.H==UBCTL3.H==UBCTL2.H==UBCTL1.H==UBCTL0.H																																	
IF(UBCTL4.H==UBCTL3.H==UBCTL2.H==UBCTL1.H) /BRAN31.H:=FRAC55.H==UBCTL0.H																																	
+FRAC47.H==UBCTL0.H																																	
+FRAC31.H==UBCTL0.H																																	
+FRAC15.H==UBCTL0.H																																	
+EXT7.H==UBCTL0.H																																	
+UBCTL0.H																																	
IF(UBCTL4.H==UBCTL3.H==UBCTL2.H==UBCTL1.H) /BRAN21.H:=UBCTL0.H==FRAC55.H																																	
+UBCTL0.H==FRAC47.H																																	
+UBCTL0.H==FRAC31.H																																	
+UBCTL0.H==FRAC15.H																																	
+UBCTL0.H																																	
<p>PART NUMBER: 23-033J5-00 DEVICE TYPE: PAL16L0 SCHEMATIC SHEET #:D-CS-M8389-0-FPAB LOCATION/DESCRIPTION: E34/ INSTRUCTION PAL ASSIGNED PIN NUMBER:</p>																																	
1= UBCTL2.H 2= UBCTL1.H 3= UBCTL0.H 4= INST4.H 5= INST3.H 6= INST2.H 7= INST1.H		8= INST0.H 9= LOAD.H 10= GND 11= PAR.ERR.H 12= ODD.PAR.H 13= INTEGER.H 14= ADD.H	15= ADD.OR.SUB.H 16= MUL.H 17= DIV.H 18= READ.H 19= ENB.LOAD.L 20= VCC																														
EQUATIONS:																																	
IF(VCC) /ENB.LOAD.L:=LOAD.H==PAR.ERR.H==READ.H																																	
IF(VCC) /DIV.H:=INST3.H==INST0.H																																	
+INST2.H==INST4.H																																	
+INST1.H==INST4.H																																	
+INST2.H==INST3.H																																	
+INST1.H==INST0.H																																	
IF(VCC) /MUL.H:=INST3.H==INST2.H																																	
+INST2.H==INST4.H																																	
+INST4.H==INST3.H																																	
+INST1.H==INST0.H																																	
+INST3.H==INST1.H																																	
IF(VCC) /ADD.OR.SUB.H:=INST4.H																																	
+INST3.H																																	
+INST2.H==INST1.H																																	
+INST2.H==INST0.H																																	
IF(VCC) /ADD.H:=INST4.H																																	
+INST3.H																																	
+INST1.H																																	
+INST0.H																																	
IF(VCC) /INTEGER.H:=INST3.H																																	
+INST4.H==INST2.H																																	
IF(VCC) /ODD.PAR.H:=UBCTL2.H==UBCTL1.H==UBCTL0.H																																	
+UBCTL2.H==UBCTL1.H==UBCTL0.H																																	
+UBCTL2.H==UBCTL1.H==UBCTL0.H																																	
+UBCTL2.H==UBCTL1.H==UBCTL0.H																																	
<p>PART NUMBER: 23-034J5-00 DEVICE TYPE: PAL16L0 SCHEMATIC SHEET #:D-CS-M8389-0-FPAL LOCATION/DESCRIPTION: E71/ HIDDEN BIT PAL ASSIGNED PIN NUMBER:</p>																																	
1= BUS.D0.H 2= BUS.D1.H 3= BUS.D2.H 4= BUS.D3.H 5= BUS.D4.H 6= BUS.D5.H 7= BUS.D6.H	8= BUS.D7.H 9= SEL1.H 10= GND 11= SEL0.H 12= INP.D40.H 13= INP.D49.H 14= INP.D50.H	15= INP.D51.H 16= INP.D52.H 17= INP.D53.H 18= INP.D54.H 19= INP.D55.H 20= VCC																															
EQUATIONS:																																	
IF(VCC) /INP.D40.H:=BUS.D0.H==SEL1.H																																	
+BUS.D0.H==SEL0.H																																	
IF(VCC) /INP.D49.H:=BUS.D1.H==SEL1.H																																	
+BUS.D1.H==SEL0.H																																	
+BUS.D0.H==SEL1.H==SEL0.H																																	
IF(VCC) /INP.D50.H:=BUS.D2.H==SEL1.H																																	
+BUS.D2.H==SEL0.H																																	
+BUS.D1.H==SEL1.H==SEL0.H																																	
IF(VCC) /INP.D51.H:=BUS.D3.H==SEL1.H																																	
+BUS.D3.H==SEL0.H																																	
+BUS.D2.H==SEL1.H==SEL0.H																																	
IF(VCC) /INP.D52.H:=BUS.D4.H==SEL1.H==SEL0.H																																	
+BUS.D4.H==SEL1.H==SEL0.H																																	
+BUS.D3.H==SEL1.H==SEL0.H																																	
IF(VCC) /INP.D53.H:=BUS.D5.H==SEL1.H==SEL0.H																																	
+BUS.D5.H==SEL1.H==SEL0.H																																	
+BUS.D4.H==SEL1.H==SEL0.H																																	
+BUS.D3.H==SEL1.H==SEL0.H																																	
IF(VCC) /INP.D54.H:=BUS.D6.H==SEL1.H==SEL0.H																																	
+BUS.D6.H==SEL1.H==SEL0.H																																	
+BUS.D5.H==SEL1.H==SEL0.H																																	
+BUS.D4.H==SEL1.H==SEL0.H																																	
IF(VCC) /INP.D55.H:=BUS.D7.H==SEL1.H==SEL0.H																																	
+BUS.D7.H==SEL1.H==SEL0.H																																	
+BUS.D6.H==SEL1.H==SEL0.H																																	
+BUS.D5.H==SEL1.H==SEL0.H																																	
<div style="text-align: right;"> 23-032J5-00 23-033J5-00 23-034J5-00 </div>																																	
<div style="display: flex; justify-content: space-between;"> <div> <p><small>THIS DRAWING AND SPECIFICATIONS ARE THE PROPERTY OF DIGITAL EQUIPMENT CORPORATION AND SHALL NOT BE REPRODUCED OR COPIED OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION. COPYRIGHT © 1981 DIGITAL EQUIPMENT CORPORATION.</small></p> </div> <div> <table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>CHK</th> <th>CHANGE NO. REV</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table> </div> <div> </div> <div> <table border="1" style="width: 100%;"> <tr> <td>DATE: 27-OCT-81</td> <td>ENG.:</td> <td>DATE:</td> <td>TITLE: F.P. ACCEL. ROM AND PAL LISTINGS</td> </tr> <tr> <td>CHECKED BY: M. Hoffman</td> <td></td> <td>SHEET 82 OF 21</td> <td></td> </tr> <tr> <td colspan="3">DSK:GLFPB2,12PL1106,1500127-OCT-81 17:21 NEXT HIGHER ASSEMBLY:</td> <td>SIZE CODE D GL</td> </tr> <tr> <td colspan="3">FIRST USED ON OPTION/MODEL: 11/230 B-DD-M8389-0-0</td> <td>NUMBER REV. A</td> </tr> </table> </div> </div>								REVISIONS		CHK	CHANGE NO. REV							DATE: 27-OCT-81	ENG.:	DATE:	TITLE: F.P. ACCEL. ROM AND PAL LISTINGS	CHECKED BY: M. Hoffman		SHEET 82 OF 21		DSK:GLFPB2,12PL1106,1500127-OCT-81 17:21 NEXT HIGHER ASSEMBLY:			SIZE CODE D GL	FIRST USED ON OPTION/MODEL: 11/230 B-DD-M8389-0-0			NUMBER REV. A
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FIRST USED ON OPTION/MODEL: 11/230 B-DD-M8389-0-0			NUMBER REV. A																														

EQUATIONS:

```
IF( INT.DIV.H ) / 1600.H: = VCC
IF( INT.DIV.H ) / 1600.H: = F3.5V.H
IF( DOUB.DIV.L ) / 0000.H: = VCC
IF( DOUB.DIV.L ) / 0000.H: = Q1IN.H
IF( EN0.DIV.F.L ) / 32.R0.H: = VCC
IF( EN0.DIV.F.L ) / 32.00.H: = Q1IN.H
IF( /EXP.17.H ) / EXP.R3.H: = VCC
IF( /EXP.17.H ) / EXP.Q3.H: = VCC
```

```

EQUATIONS:

IF { I3.H } /DIV1, I3.L:=55R3.H*FCOUT.H*INTEGER.H*SIZE1.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE1.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE1.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE0.H
+HUGE.R3.H*FCOUT.H*SIZE1.H*SIZE0.H*INTEGER.H
+HUGE.R3.H*FCOUT.H*SIZE1.H*SIZE0.H*INTEGER.H
+INTEGER.H*F47.H

IF { I3.H } /DIV2, I3.L:=HUGE.R3.H*FCOUT.H*SIZE1.H*SIZE0.H*INTEGER.H
+HUGE.R3.H*FCOUT.H*SIZE1.H*SIZE0.H*INTEGER.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE1.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE0.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE1.H
+55R3.H*FCOUT.H*INTEGER.H*SIZE1.H
+INTEGER.H*F47.H

IF { SIZE1.H } *MUL1, I1.H:=DEFAULT.H*1600.H*INTEGER.H
+0000.H*EMOD.H*DEFAULT.H*INTEGER.H*SIZE0.H
+EXT0000.H*EMOD.H*INTEGER.H*DEFAULT.H*SIZE0.H
+EXT0000.H*EMOD.H*DEFAULT.H*SIZE0.H
+0000.H*EMOD.H*DEFAULT.H*SIZE0.H
+INTEGER.H*1600.H

IF { SIZE1.H } *MUL2, I1.H:=DEFAULT.H*1600.H
+SIZE0.H*3200.H*INTEGER.H*EMOD.H*DEFAULT.H
+SIZE0.H*0000.H*INTEGER.H*EMOD.H*DEFAULT.H
+0000.H*EMOD.H*DEFAULT.H*SIZE0.H
+3200.H*EMOD.H*DEFAULT.H*SIZE0.H
+INTEGER.H*1600.H

```

```

EQUATIONS:

[IF VCC ] /MUL ,H:=*/MOD1 ,H
+MOD8 ,H
+*/INTEGER ,H
+DIV ,H

[IF VCC ] /DIV ,L:=MOD1 ,H*/MOD8 ,H=DIV ,H*/INTEGER ,H*/SIZE1 ,H*/SIZE0 ,H

[IF VCC ] /DOUT ,DIV ,L:=MOD1 ,H*/MOD8 ,H=DIV ,H*/INTEGER ,H*/SIZE1 ,H*/SIZE0 ,H
+MOD1 ,H*/MOD8 ,H=DIV ,H*/INTEGER ,H*/SIZE1 ,H*/SIZE0 ,H

[IF VCC ] /INT ,DIV ,H:=*/MOD1 ,H
+MOD8 ,H
+*/INTEGER ,H
+DIV ,H

[IF MOD1 ,H=MOD8 ,H*/LOAD ,H*/SHF1 ,H*/SHF0 ,H=DISA ,L ] /1007 ,H:=*/EXP0 ,Y ,H

[IF MOD1 ,H=MOD8 ,H*/LOAD ,H*/SHF1 ,H*/SHF0 ,H=DISA ,L ] /2007 ,H:=*/F55 ,Y ,H

```

23-035J5-00
23-036J5-00
23-037J5-00

G.M. WAFNER GLFP03,PL01 (106,1500) 27-OCT-81 1715

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REVISIONS		
CHK	CHANGE NO.	REV

digital
DSK:GLFP83.T2P1186,
FIRST USED ON OPTIO

DRN: 11111111
CHK'D: 11/7
1500 127-OCT-81
N/MODEL: 11/7

DATE	ENG.
27-OCT-81	
DATE	BOARD
	SHEET
17:22	NEXT HIGH
30	B-DD-M

DATE:	03 OF 2
LOCATION:	8389-0-0
OTHER ASSEMBLY:	

E	TITLE: F		
	AN		
SIZE	CODE		
D	GL	M	

P. ACCE
D PAL L
NUMBER
18389-0-0

L. ROM	
ISTINGS	
	REV. A

1000

```

1= MOD1.H          8= READ.H          15= ENB.EXP.L
2= MOD0.H          9= ERR.H          16= ENB.F47.L
3= SHF1.H          10= GND           17= ENB.F31.L
4= SHF0.H          11= FORCE.H        18= ENB.F15.L
5= L0A0.H           12= ALLOW.CPU.H    19= ENB.EXT.L
6= DISA.L           13= ENB.CC.L      20= VCC
7= INTEGER.H        14= ENB.F55.L

```

```

IF {VCC} /ENB.EXP.L:=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=READ.H,M=ERR.H,M=DISA.L,M=FORCE.H

IF {VCC} /ENB.F55.L:=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=INTEGER.H,M=READ.H,M=ERR.H,M=DISA.L,M=FORCE.H
M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=READ.H,M=ERR.H,M=DISA.L,M=FORCE.H

IF {VCC} /ENB.F47.L:=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=INTEGER.H,M=READ.H,M=ERR.H,M=DISA.L,M=FORCE.H
M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=READ.H,M=ERR.H,M=DISA.L,M=FORCE.H
M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=INTEGER.H,M=READ.H,M=ERR.H,M=DISA.L,M=FORCE.H

IF {VCC} /ENB.F31.L:=FORCE.H,M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=READ.H,M=ERR.H,M=DISA.L

IF {VCC} /ENB.F15.L:=FORCE.H,M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=INTEGER.H,M=READ.H,M=ERR.H,M=DISA.L

IF {VCC} /ENB.EXT.L:=FORCE.H,M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=INTEGER.H,M=READ.H,M=ERR.H,M=DISA.L

IF {VCC} /ENB.CC.L:=FORCE.H,M=MOD1.H,M=MOD0.H,M=LOAD.H,M=SHF1.H,M=SHF0.H,M=READ.H,M=ERR.H,M=DISA.L

```

```
[F] VCC ) /ALLOW.CPU.H:=/MOD0.H=/READ.H=/ERR.H=/FORCE.H
+ /MOD0.H=/READ.H=/ERR.H=/FORCE.H
```

```

1= F.14.H          0= ENB.CLK5.L      15= E.11.H
2= F.13.H          9= EXT.CLK.H      16= E.12.H
3= F.COUT.H        10= GND              17= E.13.H
4= E.C3.H          11= NC              18= E.14.H
5= E.C2.H          12= E.C1H.H      19= E.15.H
6= E.C1.H          13= F.C1H.H      20= VCC
7= E.C0.H          14= E.10.H

```

```
IF (VCC) /E.10.H:=E.C3.H#E.C2.H
+E.C3.H#E.C0.H
+E.C2.H#E.C1.H#E.C0.H

IF (VCC) /E.11.H:=E.C3.H#E.C2.H
+E.C3.H#E.C0.H
+E.C2.H#E.C1.H#E.C0.H
+E.C1.H#E.C0.H
```

```
IF(VCC) /E.12.H:=/E.C3.H#E.C2.H
*/E.C1.H#E.C0.H
*/E.C3.H#E.C1.H
*/E.C3.H#/E.C2.H#/E.C1.H
*/E.C2.H#E.C1.H#/E.C0.H
*/E.C2.H#E.C0.H
```

```
IF[VCC] /E.I3.H:=/E.C3.H=E.C1.H
+ /E.C3.H=E.C0.H=E.C2.H
+ E.C3.H=E.C2.H=E.C1.H=/E.C0.H
+ /E.C2.H=/E.C1.H=E.C0.H=E.C3.H
```

```
IF (VCC) /E.14.H:=/E.C3.H=E.C1.H=E.C0.H
+E.C3.H=/E.C2.H=/E.C1.H
+E.C3.H=/E.C1.H=/E.C0.H
+/E.C3.H=/E.C1.H=E.C0.H
+E.C2.H=E.C1.H=/E.C0.H=E.C3.H
```

```
IF (VCC) /E.15.H:=/E.C2.H
+ /E.C3.H:=/E.C1.H
+ /E.C3.H:=/E.C1.H:=/E.C0.H
+ /E.C1.H:=/E.C0.H
+ /E.C3.H:=/E.C1.H:=/E.C0.H
```

```
IF(VCC) /E.C1.H:=/E.C1.H#E.C0.H
+/E.C2.H#E.C1.H#E.C0.H
+/E.C3.H#E.C2.H#E.C1.H#E.C0.H#F.COUT.H
```

```
IF(VCC) /F.CIH,H:=/F.I3,H=/F.I4,H=/ENB.CLK5,L
*/F.I3,H=/F.I4,H=/EXT.CLK,H
*/F.I3,H=/F.I4,H=/F.COUT,H
*ENB.CLK5,L=EXT.CLK,H*/F.COUT,H
```

```

1= SHF1.H      0= EXT.00.H      15= F55.03.H
2= SHF0.H      9= E.R0.SV.H      16= E0.R0.H
3= E.17.H      10= GND      17= E0.00.H
4= EXT.C.H      11= F.COUT.H      18= F55.R3.H
5= EN0.C3.L    12= MUL.SF.H      19= F55.R3.2.H
6= F.10.H      13= EXT.R0.H      20= VCC
7= F.17.H

```

```
IF{F.10,H:=F.17,H}/F55.Q3,H:=E0.Q0,H:=SHF1,H:=SHF0,H:=ENB.C3.L
+ENB.C3.L:=EXT.C,H:=SHF1,H:=SHF0,H:=EXT.R0,H
+ENB.C3.L:=SHF0,H:=EXT.R0,H
+EXT.C,H:=SHF0,H:=EXT.R0,H
+SHF1,H:=SHF0,H
+E0.Q0,H:=SHF1,H:=SHF0,H:=EXT.C,H
```

```
IF(F.I0.HM=F.I7.HM=SHF1.H) /F55.R3.H:=/E.R0.SV.HM=/SHF0.HM=EXT.C.H
+/E.R0.SV.HM=/SHF0.HM=ENB.C3.L
+SHF0.HM=ENB.C3.L
+SHF0.HM=EXT.C.H
+/SHF0.HM=EXT.C.H=ENB.C3.L
```

$$[F(F, I0, H) / F, I7, H) / SHF1, H) / SHF0, H) / F55, R3, 2, H) = / E0, R0, H$$

```
IF(E.10,H=E.17,H)/E0.00,H:=/F55.03,H:=/SHF1,H:=/SHF0,H
+ /SHF1,H:=SHF0,H
+ SHF1,H:=SHF0,H:=/F55.03,H
```

$$\begin{aligned} & \text{IF}(E, 10, H = E, 17, H) \wedge E0, R0, H := /F55, R3, H = /SHF1, H = /SHF0, H \\ & \quad \wedge /SHF1, H = SHF0, H \\ & \quad \wedge SHF1, H = SHF0, H = /F55, R3, H \end{aligned}$$

```
IF(VCC) MUL.SHF.H:=F.18.H
+ F.17.H
+ SHF1.H
+ SHF0.H
+ EN0.C3.L:=EXT.C.H
```

23-030J5-00
23-039J5-00
23-040J5-00

G.M. MAFFNER, (1106,1500,FPA)GLFPB4.DPL, STAGE 2, "D" RELEASE BOX
G.M. MAFFNER GLFPB4.PLO(1106,1500) 27-OCT-81 171511

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REVISIONS		
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DRN	2 M Hogue
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DATE	ENG.
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LOCATION:		

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ROM STINGS

DSK:GLFP04.T2P1106,1500127-00-01 12:22	NEXT HIGHER ASSEMBLY:	SIZE	CODE	NUMBER	REV.
FIRST USED ON OPTION/MODEL: 11/730	B-00-M8389-0-0	D	G	M8389-0-0	A

G.M. WARNER, (1106,1508) FOR JGLFPP9, DPL, SCALE 2, "D" RELEASE BOX
G.M. WARNER GLFPP9, PLOT 1106,1508 27 OCT 81 17151

8	7	6	5	4	3	2	1																					
<p>PART NUMBER: 23-027K3-00 DEVICE TYPE: PAL16R4 SCHEMATIC SHEET #10-CS-M8389-0-FPAB LOCATION/DESCRIPTION: E23/ BRANCH 3 PAL ASSIGNED PIN NUMBER:</p> <table><tr><td>1= CLK.L</td><td>8= EXPF3.H</td><td>15= EXP.EQ.0.H</td></tr><tr><td>2= UBCTL4.H</td><td>9= SUM.H</td><td>16= OP20.H</td></tr><tr><td>3= UBCTL3.H</td><td>10= GND</td><td>17= OP10.H</td></tr><tr><td>4= UBCTL2.H</td><td>11= GND</td><td>18= BRAN1.H</td></tr><tr><td>5= UBCTL1.H</td><td>12= ENB.CLK.L</td><td>19= BRAN0.H</td></tr><tr><td>6= UBCTL0.H</td><td>13= NC</td><td>20= VCC</td></tr><tr><td>7= EXP0.H</td><td>14= EXPF3.SV.H</td><td></td></tr></table> <p>EQUATIONS:</p> <p>IF(UBCTL3.H) /BRAN0.H:=UBCTL2.H/UBCTL1.H/UBCTL0.H/EXPF3.SV.H +UBCTL2.H/UBCTL1.H/OP10.H +UBCTL2.H/UBCTL1.H/OP20.H +UBCTL2.H/UBCTL1.H +UBCTL2.H/UBCTL1.H/EXPF3.SV.H/UBCTL0.H +UBCTL2.H/UBCTL1.H/UBCTL0.H/OP20.H +UBCTL2.H/UBCTL1.H/UBCTL0.H</p> <p>IF(UBCTL4.H/UBCTL3.H) /BRAN1.H:=UBCTL2.H/UBCTL1.H/UBCTL0.H/EXP.EQ.0.H +UBCTL2.H/UBCTL1.H/UBCTL0.H/OP10.H +UBCTL2.H/UBCTL1.H/UBCTL0.H +UBCTL2.H/UBCTL1.H/UBCTL0.H/SUM.H +UBCTL2.H/UBCTL1.H +UBCTL2.H/UBCTL1.H/UBCTL0.H/EXPF3.SV.H +UBCTL2.H/UBCTL1.H/UBCTL0.H</p> <p>/OP10.H:=ENB.CLK.L/OP20.H +ENB.CLK.L/OP10.H +EXPF3.H/EXP0.H</p> <p>/OP20.H:=ENB.CLK.L/EXP0.H +ENB.CLK.L/OP20.H +EXPF3.H/EXP0.H</p> <p>/EXP.EQ.0.H:=EXP0.H +EXPF3.H/EXP0.H</p> <p>/EXPF3.SV.H:=EXPF3.H +EXPF3.H/EXP0.H</p>								1= CLK.L	8= EXPF3.H	15= EXP.EQ.0.H	2= UBCTL4.H	9= SUM.H	16= OP20.H	3= UBCTL3.H	10= GND	17= OP10.H	4= UBCTL2.H	11= GND	18= BRAN1.H	5= UBCTL1.H	12= ENB.CLK.L	19= BRAN0.H	6= UBCTL0.H	13= NC	20= VCC	7= EXP0.H	14= EXPF3.SV.H	
1= CLK.L	8= EXPF3.H	15= EXP.EQ.0.H																										
2= UBCTL4.H	9= SUM.H	16= OP20.H																										
3= UBCTL3.H	10= GND	17= OP10.H																										
4= UBCTL2.H	11= GND	18= BRAN1.H																										
5= UBCTL1.H	12= ENB.CLK.L	19= BRAN0.H																										
6= UBCTL0.H	13= NC	20= VCC																										
7= EXP0.H	14= EXPF3.SV.H																											
<p>PART NUMBER: 23-028K3-00 DEVICE TYPE: PAL16R4 SCHEMATIC SHEET #10-CS-M8389-0-FPAC LOCATION/DESCRIPTION: E47/ SIGN PAL ASSIGNED PIN NUMBER:</p> <table><tr><td>1= CLK.L</td><td>8= ADD.H</td><td>15= OP25.H</td></tr><tr><td>2= ENB.C5.L</td><td>9= ENB.CLK7.L</td><td>16= OP15.H</td></tr><tr><td>3= ENB.C4.L</td><td>10= GND</td><td>17= SUM.H</td></tr><tr><td>4= ENB.EXP.L</td><td>11= GND</td><td>18= ADDR2.H</td></tr><tr><td>5= ADDR1.H</td><td>12= EXT.CLK.H</td><td>19= ADDR0.H</td></tr><tr><td>6= ADDR0.H</td><td>13= D15.H</td><td>20= VCC</td></tr><tr><td>7= A.OR.S.H</td><td>14= SIGN.OUT.H</td><td></td></tr></table> <p>EQUATIONS:</p> <p>/SUM.H:=A.OR.S.H +ADD.H/OP15.H/OP25.H +ADD.H/OP15.H/OP25.H +ADD.H/OP25.H/OP15.H/POLY.H +ADD.H/OP25.H/OP15.H/POLY.H +POLY.H/SIGN.OUT.H/OP25.H +POLY.H/SIGN.OUT.H/OP25.H +ENB.C4.L/ENB.CLK7.L</p> <p>/OP15.H:=OP15.H/ENB.CLK7.L +OP15.H/D15.H +D15.H/ENB.CLK7.L/EXT.CLK.H +EXT.CLK.H/OP15.H +ENB.C4.L/ENB.CLK7.L</p> <p>/OP25.H:=OP25.H/ENB.C5.L +OP25.H/D15.H +D15.H/ENB.C5.L/EXT.CLK.H +EXT.CLK.H/OP25.H +ENB.C4.L/ENB.CLK7.L</p> <p>/SIGN.OUT.H:=ENB.C4.L/SIGN.OUT.H +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L +ENB.C4.L/ADDR2.H/ADDR1.H/ADDR0.H/OP15.H/ENB.CLK7.L</p> <p>IF(ENB.EXP.L) /D15.H:=SIGN.OUT.H</p>								1= CLK.L	8= ADD.H	15= OP25.H	2= ENB.C5.L	9= ENB.CLK7.L	16= OP15.H	3= ENB.C4.L	10= GND	17= SUM.H	4= ENB.EXP.L	11= GND	18= ADDR2.H	5= ADDR1.H	12= EXT.CLK.H	19= ADDR0.H	6= ADDR0.H	13= D15.H	20= VCC	7= A.OR.S.H	14= SIGN.OUT.H	
1= CLK.L	8= ADD.H	15= OP25.H																										
2= ENB.C5.L	9= ENB.CLK7.L	16= OP15.H																										
3= ENB.C4.L	10= GND	17= SUM.H																										
4= ENB.EXP.L	11= GND	18= ADDR2.H																										
5= ADDR1.H	12= EXT.CLK.H	19= ADDR0.H																										
6= ADDR0.H	13= D15.H	20= VCC																										
7= A.OR.S.H	14= SIGN.OUT.H																											
<p>PART NUMBER: 23-029K3-00 DEVICE TYPE: PAL16R4 SCHEMATIC SHEET #10-CS-M8389-0-FPAD LOCATION/DESCRIPTION: E46/ PARITY PAL ASSIGNED PIN NUMBER:</p> <table><tr><td>1= CLK.L</td><td>8= PAR2.CK.H</td><td>15= D01.H</td></tr><tr><td>2= PAR1.CK.H</td><td>9= PAR1.H</td><td>16= D02.H</td></tr><tr><td>3= UPF.CK.H</td><td>10= GND</td><td>17= D03.H</td></tr><tr><td>4= ROM.CK.H</td><td>11= ENB.L</td><td>18= PAR.ERR.H</td></tr><tr><td>5= READ.H</td><td>12= P.CK2.L</td><td>19= FORCE.LOW.L</td></tr><tr><td>6= BCTL.CK.H</td><td>13= PAR0.H</td><td>20= VCC</td></tr><tr><td>7= FORCE.H</td><td>14= D00.H</td><td></td></tr></table> <p>EQUATIONS:</p> <p>/D00.H:=D01.H/D02.H +FORCE.H</p> <p>/D01.H:=UPF.CK.H/ROM.CK.H/PAR0.H/D01.H +UPF.CK.H/ROM.CK.H/PAR0.H/D01.H +UPF.CK.H/ROM.CK.H/PAR0.H/D01.H +UPF.CK.H/ROM.CK.H/PAR0.H/D01.H +FORCE.H</p> <p>/D02.H:=PAR1.CK.H/BCTL.CK.H/P.CK2.L/D02.H +PAR1.CK.H/BCTL.CK.H/P.CK2.L/D02.H +PAR1.CK.H/BCTL.CK.H/P.CK2.L/D02.H +PAR1.CK.H/BCTL.CK.H/P.CK2.L/D02.H +FORCE.H</p> <p>IF(VCC) /PAR.ERR.H:=D01.H/D02.H +FORCE.H +READ.H</p> <p>IF(VCC) /FORCE.LOW.L:=D01.H/D00.H +D02.H/D00.H</p> <p>IF(VCC) /P.CK2.L:=PAR1.H/PAR2.CK.H +PAR1.H/PAR2.CK.H</p>								1= CLK.L	8= PAR2.CK.H	15= D01.H	2= PAR1.CK.H	9= PAR1.H	16= D02.H	3= UPF.CK.H	10= GND	17= D03.H	4= ROM.CK.H	11= ENB.L	18= PAR.ERR.H	5= READ.H	12= P.CK2.L	19= FORCE.LOW.L	6= BCTL.CK.H	13= PAR0.H	20= VCC	7= FORCE.H	14= D00.H	
1= CLK.L	8= PAR2.CK.H	15= D01.H																										
2= PAR1.CK.H	9= PAR1.H	16= D02.H																										
3= UPF.CK.H	10= GND	17= D03.H																										
4= ROM.CK.H	11= ENB.L	18= PAR.ERR.H																										
5= READ.H	12= P.CK2.L	19= FORCE.LOW.L																										
6= BCTL.CK.H	13= PAR0.H	20= VCC																										
7= FORCE.H	14= D00.H																											

23-027K3-00
23-028K3-00
23-029K3-00

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REVISIONS
CHK CHANGE NO. REV

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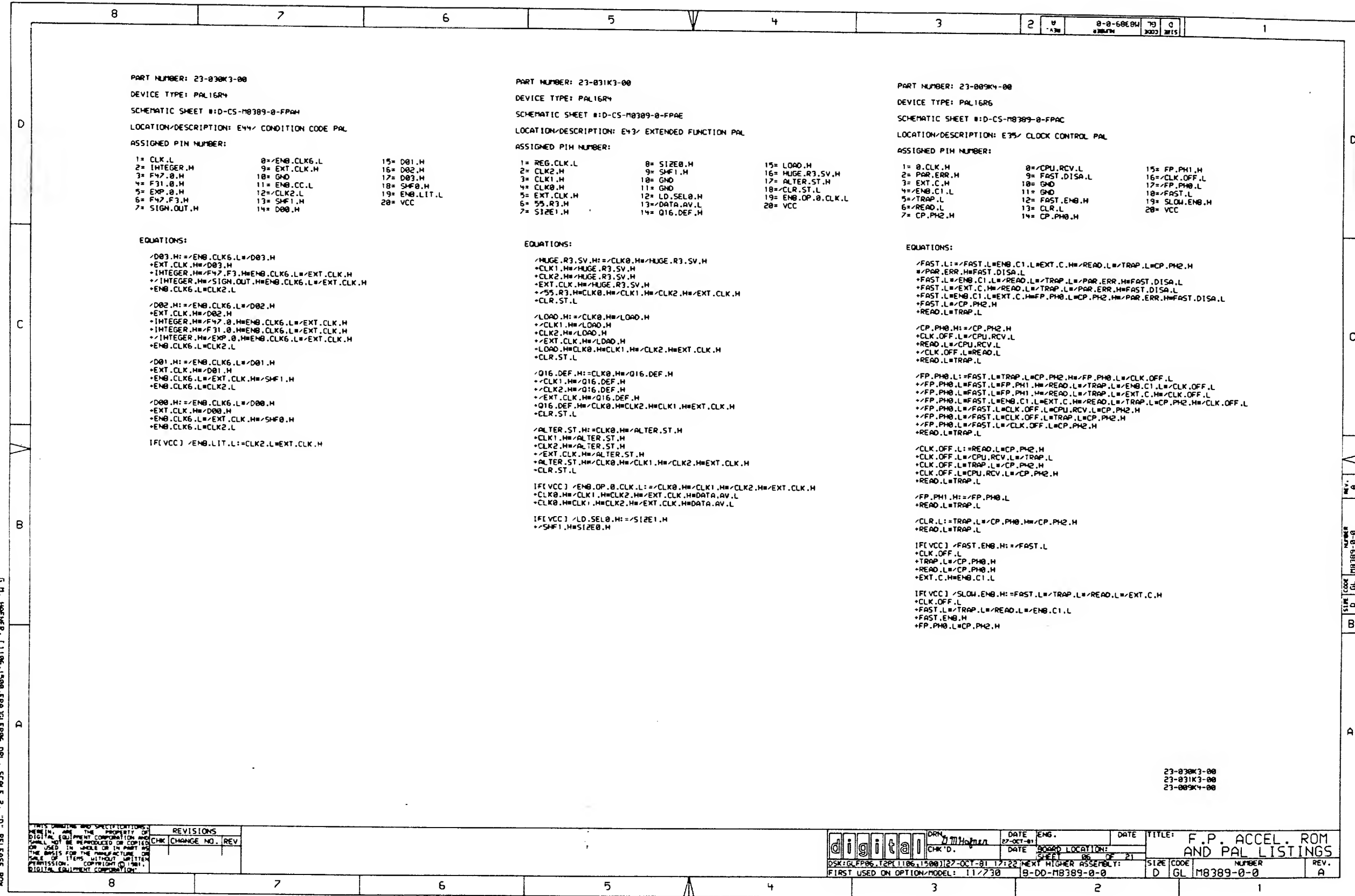
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DSK:GLFPP9,TP1106,1508 27-OCT-81 17:22 NEXT 4:36:48 ASSEMBLY:
FIRST USED ON OPTION/MODEL: 11/7730 B-DD-M8389-0-0

TITLE: F.P. ACCEL. ROM
AND PAL LISTINGS
SIZE CODE NUMBER REV.
D GL M8389-0-0 A



G.M. HOFER, (1106,1500) FPAJ0LP06.DPL, SCALE 2, "D" RELEASE BOX
G.M. HOFER, GLP06, PLOT 1106,1500 27-OCT-81 1721

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
000	1C	00011100	040	00	00000000	080	1C	00011100	0C0	1C	00011100	100	1C	00011100	140	40	01000000	180	1C	00011100	1C0	1C	00011100
001	1C	00011100	041	00	00000000	081	1C	00011100	0C1	1C	00011100	101	1C	00011100	141	40	01000000	181	1C	00011100	1C1	1C	00011100
002	1C	00011100	042	03	00000011	082	1C	00011100	0C2	1C	00011100	102	1C	00011100	142	43	01000011	182	1C	00011100	1C2	1C	00011100
003	1C	00011100	043	03	00000011	083	1C	00011100	0C3	1C	00011100	103	1C	00011100	143	43	01000011	183	1C	00011100	1C3	1C	00011100
004	1C	00011100	044	06	00000110	084	1C	00011100	0C4	18	00010000	104	1C	00011100	144	46	01000110	184	1C	00011100	1C4	1C	00011100
005	1C	00011100	045	06	00000110	085	1C	00011100	0C5	18	00010000	105	1C	00011100	145	46	01000110	185	1C	00011100	1C5	1C	00011100
006	1C	00011100	046	05	00000101	086	1C	00011100	0C6	1A	00010100	106	1C	00011100	146	45	01000101	186	1C	00011100	1C6	1C	00011100
007	1C	00011100	047	05	00000101	087	1C	00011100	0C7	1A	00010100	107	1C	00011100	147	45	01000101	187	1C	00011100	1C7	1C	00011100
008	1C	00011100	048	08	00001000	088	1C	00011100	0C8	1C	00011100	108	1C	00011100	148	48	01001000	188	1C	00011100	1C8	1C	00011100
009	1C	00011100	049	09	00001001	089	1C	00011100	0C9	1C	00011100	109	1C	00011100	149	49	01001001	189	1C	00011100	1C9	1C	00011100
00A	1C	00011100	04A	0A	00001010	08A	1C	00011100	0CA	1C	00011100	10A	1C	00011100	14A	4A	01001010	18A	1C	00011100	1CA	1C	00011100
00B	1C	00011100	04B	08	00001011	08B	1C	00011100	0CB	1C	00011100	10B	1C	00011100	14B	48	01001011	18B	1C	00011100	1CB	1C	00011100
00C	1C	00011100	04C	10	00010000	08C	1C	00011100	0CC	1C	00011100	10C	1C	00011100	14C	50	01010000	18C	1C	00011100	1CC	1C	00011100
00D	1C	00011100	04D	11	00010001	08D	1C	00011100	0CD	1C	00011100	10D	1C	00011100	14D	51	01010001	18D	1C	00011100	1CD	1C	00011100
00E	1C	00011100	04E	12	00010010	08E	1C	00011100	0CE	1C	00011100	10E	1C	00011100	14E	52	01010010	18E	1C	00011100	1CE	1C	00011100
00F	1C	00011100	04F	00	00000000	08F	1C	00011100	0CF	1C	00011100	10F	1C	00011100	14F	40	01000000	18F	1C	00011100	1CF	1C	00011100
010	1C	00011100	050	1C	00011100	090	1C	00011100	0D0	1C	00011100	110	1C	00011100	150	1C	00011100	190	1C	00011100	1D0	1C	00011100
011	1C	00011100	051	02	00000010	091	1C	00011100	0D1	1C	00011100	111	1C	00011100	151	42	01000010	191	1C	00011100	1D1	1C	00011100
012	1C	00011100	052	1C	00011100	092	1C	00011100	0D2	1C	00011100	112	1C	00011100	152	1C	00011100	192	1C	00011100	1D2	1C	00011100
013	1C	00011100	053	1C	00011100	093	1C	00011100	0D3	1C	00011100	113	1C	00011100	153	1C	00011100	193	1C	00011100	1D3	1C	00011100
014	1C	00011100	054	07	00000111	094	1C	00011100	0D4	1C	00011100	114	1C	00011100	154	47	01000111	194	1C	00011100	1D4	1C	00011100
015	1C	00011100	055	04	00000100	095	1C	00011100	0D5	1C	00011100	115	1C	00011100	155	44	01000100	195	1C	00011100	1D5	1C	00011100
016	1C	00011100	056	00	00001101	096	1C	00011100	0D6	1C	00011100	116	1C	00011100	156	4F	01001111	196	1C	00011100	1D6	1C	00011100
017	1C	00011100	057	1C	00011100	097	1C	00011100	0D7	1C	00011100	117	1C	00011100	157	1C	00011100	197	1C	00011100	1D7	1C	00011100
018	1C	00011100	058	1C	00011100	098	1C	00011100	0D8	1C	00011100	118	1C	00011100	158	1C	00011100	198	0F	00001111	1D8	1C	00011100
019	1C	00011100	059	1C	00011100	099	1C	00011100	0D9	1C	00011100	119	1C	00011100	159	1C	00011100	199	0E	00001110	1D9	1C	00011100
01A	1C	00011100	05A	1C	00011100	09A	1C	00011100	0DA	1C	00011100	11A	1C	00011100	15A	1C	00011100	19A	1C	00011100	1DA	1C	00011100
01B	1C	00011100	05B	1C	00011100	09B	1C	00011100	0DB	1C	00011100	11B	1C	00011100	15B	1C	00011100	19B	1C	00011100	1DB	1C	00011100
01C	1C	00011100	05C	1C	00011100	09C	1C	00011100	0DC	1C	00011100	11C	1C	00011100	15C	1C	00011100	19C	1C	00011100	1DC	1C	00011100
01D	1C	00011100	05D	1C	00011100	09D	1C	00011100	0DD	1C	00011100	11D	1C	00011100	15D	1C	00011100	19D	1C	00011100	1DD	1C	00011100
01E	1C	00011100	05E	1C	00011100	09E	1C	00011100	0DE	1C	00011100	11E	1C	00011100	15E	1C	00011100	19E	1C	00011100	1DE	1C	00011100
01F	1C	00011100	05F	1C	00011100	09F	1C	00011100	0DF	1C	00011100	11F	1C	00011100	15F	1C	00011100	19F	1C	00011100	1DF	1C	00011100
020	1C	00011100	060	20	00100000	0A0	1C	00011100	0E0	1C	00011100	120	1C	00011100	160	60	01100000	1A0	1C	00011100	1E0	1C	00011100
021	1C	00011100	061	20	00100000	0A1	1C	00011100	0E1	1C	00011100	121	1C	00011100	161	60	01100000	1A1	1C	00011100	1E1	1C	00011100
022	1C	00011100	062	23	00100011	0A2	1C	00011100	0E2	1C	00011100	122	1C	00011100	162	63	01100011	1A2	1C	00011100	1E2	1C	00011100
023	1C	00011100	063	23	00100011	0A3	1C	00011100	0E3	1C	00011100	123	1C	00011100	163	63	01100011	1A3	1C	00011100	1E3	1C	00011100
024	1C	00011100	064	26	00100110	0A4	1C	00011100	0E4	1C	00011100	124	1C	00011100	164	66	01100110	1A4	1C	00011100	1E4	1C	00011100
025	1C	00011100	065	26	00100110	0A5	1C	00011100	0E5	1C	00011100	125	1C	00011100	165	66	01100110	1A5	1C	00011100	1E5	1C	00011100
026	1C	00011100	066	25	00100101	0A6	1C	00011100	0E6	1C	00011100	126	1C	00011100	166	65	01100101	1A6	1C	00011100	1E6	1C	00011100
027	1C	00011100	067	25	00100101	0A7	1C	00011100	0E7	1C	00011100	127	1C	00011100	167	65	01100101	1A7	1C	00011100	1E7	1C	00011100
028	1C	00011100	068	28	00101000	0A8	1C	00011100	0E8	1C	00011100	128	1C	00011100	168	68	01101000	1A8	1C	00011100	1E8	1C	00011100
029	1C	00011100	069	29	00101001	0A9	1C	00011100	0E9	1C	00011100	129	1C	00011100	169	69	01101001	1A9	1C	00011100	1E9	1C	00011100
02A	1C	00011100	06A	2A	00101010	0AA	1C	00011100	0EA	1C	00011100	12A	1C	00011100	16A	6A	01101010	1AA	1C	00011100	1EA	1C	00011100
02B	1C	00011100	06B	28	00101011	0AB	1C	00011100	0EB	1C	00011100	12B	1C	00011100	16B	68	01101011	1AB	1C	00011100	1EB	1C	00011100
02C	1C	00011100	06C	30	00110000	0AC	1C	00011100	0EC	1C	00011100	12C	1C	00011100	16C	70	01110000	1AC	1C	00011100	1EC	1C	00011100
02D	1C	00011100	06D	31	00110001	0AD	1C	00011100	0ED	1C	00011100	12D	1C	00011100	16D	71	01110001	1AD	1C	00011100	1ED	1C	00011100
02E	1C	00011100	06E	32	00110010	0AE	1C	00011100	0EE	1C	00011100	12E	1C	00011100	16E	72	01110010	1AE	1C	00011100	1EE	1C	00011100
02F	1C	00011100	06F	20	00100000	0AF	1C	00011100	0EF	1C	00011100	12F	1C	00011100	16F	60	01100000	1AF	1C	00011100	1EF	1C	00011100
030	1C	00011100	070	1C	00011100	0B0	1C	00011100	0F0	1C	00011100	130	1C	00011100	170	1C	00011100	1B0	1C	00011100	1F0	1C	00011100
031	1C	00011100	071	22	00100010	0B1	1C	00011100	0F1	1C	00011100	131	1C	00011100	171	62	01100010	1B1	1C	00011100	1F1	1C	00011100
032	1C	00011100	072	1C	00011100	0B2	1C	00011100	0F2	1C	00011100	132	2F	00101111	172	1C	00011100	1B2	1C	00011100	1F2	1C	00011100
033	1C	00011100	073	1C	00011100	0B3	1C	00011100	0F3	1C	00011100	133	4C	01001100	173	1C	00011100	1B3	1C	00011100	1F3	1C	00011100
034	1C	00011100	074	27	00100111	0B4	1C	00011100	0F4	1C	00011100	134	1C	00011100	174	67	01100111	1B4	1C	00011100	1F4	1C	00011100
035	1C	00011100	075	24	00100100																		

D

C

B

A

D

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A

G:\M. HANFNER\1106\1508\FPA ROM\FP09.DAT, SCALE 2, 0 - RELEASE BOX

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REVISIONS		
CHK	CHANGE NO.	REV

digital	DATE	ENG.	DATE	TITLE
	27-OCT-81			F.P. ACCEL. ROM AND PAL LISTINGS
DATE		BOARD LOCATION	SIZE CODE	NUMBER
11-730		8-DD-M8389-0-0	D	GL M8389-0-0
FIRST USED ON OPTION MODEL:		11-730	8-DD-M8389-0-0	REV. A

PART NUMBER: 23-113F3-00, PAGE 2
DEVICE TYPE: 1024 X 8
SCHEMATIC SHEET #: D-CS-M8389-0-FPAE
LOCATION/DESCRIPTION: E60 / LD & SHFT FRAC CTRL

LEFT COLUMN OF 8IN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT	HEX LOC	HEX DAT	01N DAT
000	00	00000000	040	2C	00101100	080	01	10000001	0C0	C0	11000000	100	30	00111000	140	DC	11011100	180	01	10000001	1C0	F6	11110110
001	01	00000001	041	46	01000110	081	02	10000010	0C1	00	10000000	101	01	00000001	141	40	01001000	181	A0	10101000	1C1	C6	11000110
002	09	00001001	042	43	01000011	082	50	01011011	0C2	E1	11100001	102	25	00100101	142	65	01100101	182	03	10000011	1C2	71	01110001
003	60	01100000	043	4C	01001100	083	0C	10001100	0C3	44	01000100	103	00	00000000	143	59	01011001	183	04	10000100	1C3	00	10000000
004	05	00000101	044	44	01000100	084	A6	10100110	0C4	AC	10101100	104	05	10000101	144	00	10111101	184	40	01000000	1C4	43	01000011
005	05	00000101	045	E3	11100011	085	4C	01001100	0C5	C5	11000101	105	2D	00101101	145	44	01000100	185	AC	10101100	1C5	C5	11000101
006	20	00101000	046	00	00000000	086	00	11011000	0C6	AC	10101100	106	7E	01111110	146	4E	01001110	186	00	10110000	1C6	2C	00101100
007	E3	11100011	047	00	00000000	087	0D	10001101	0C7	0A	00001010	107	20	00101000	147	56	01010110	187	AC	10101100	1C7	0C	10001100
008	22	00100010	048	09	00001001	088	6A	01101010	0C8	FF	11111111	108	0A	00001010	148	16	00010110	188	F2	11110010	1C8	F0	11110000
009	0E	00001110	049	49	01001001	089	00	00000000	0C9	E8	11101011	109	09	00001001	149	00	10111011	189	69	01101001	1C9	A6	10100110
00A	EC	11101100	04A	3C	00111100	08A	6E	01101110	0CA	49	01001001	10A	00	10111101	14A	0E	00001110	18A	DC	11011100	1CA	44	00000100
00B	19	00011001	04B	06	00000110	08B	F4	11110100	0CB	50	01010000	10B	F1	11110001	14B	E5	11100101	18B	09	10111001	1CB	0C	11001100
00C	00	00000000	04C	4C	01001100	08C	9C	10011100	0CC	59	01011001	10C	30	00111000	14C	ED	11101101	18C	93	10010011	1CC	D0	11010000
00D	04	11010100	04D	46	01000110	08D	90	10011011	0CD	30	00111000	10D	C2	11000010	14D	A5	10100101	18D	90	10011000	1CD	A0	10100000
00E	00	00000000	04E	43	01000011	08E	00	11011000	0CE	21	00100001	10E	AA	10101010	14E	08	10001000	18E	85	10110101	1CE	C0	11000000
00F	C5	11000101	04F	62	01100010	08F	F4	11110100	0CF	C0	11000000	10F	2A	00100000	14F	76	01101110	18F	C5	11000101	1CF	A1	10100001
010	30	00110000	050	50	01010000	090	0F	00001111	0D0	00	00000000	110	10	00010000	150	2D	00101101	190	AC	10101100	1D0	D1	11010001
011	4A	01001010	051	CC	11001100	091	DA	11011010	0D1	D9	11011001	111	E3	11100011	151	50	01010000	191	7E	01111110	1D1	9A	10011010
012	3A	00111010	052	00	00001011	092	00	00000000	0D2	D9	11011001	112	00	00000000	152	61	01100001	192	6A	01101010	1D2	E4	11100100
013	2A	00101010	053	01	00000001	093	4F	01001111	0D3	00	00001010	113	12	00010010	153	50	01010000	193	D5	11101010	1D3	F0	11110000
014	06	00000110	054	A6	10101110	094	00	00000000	0D4	26	00100110	114	14	00010100	154	8D	10001101	194	D9	11011001	1D4	2C	00101100
015	15	00001010	055	AC	10101100	095	F6	11110110	0D5	35	00110101	115	16	00010110	155	60	01100000	195	95	10010101	1D5	07	11010111
016	00	00000000	056	07	00000111	096	E0	11101000	0D6	CE	11001110	116	6E	01101110	156	46	01000110	196	ED	11101101	1D6	9E	10011110
017	03	00000011	057	01	00000001	097	F8	11110100	0D7	00	10110101	117	25	00100101	157	46	01000110	197	9A	100011010	1D7	07	11010111
018	18	00011000	058	58	01011000	098	0D	10111101	0D8	09	10001001	118	03	10000011	158	2E	00101110	198	07	00000111	1D8	26	00100110
019	19	00011001	059	E2	11100010	099	8C	10111100	0D9	09	10001001	119	14	00010100	159	1E	00011110	199	99	10011001	1D9	06	10000110
01A	35	00110101	05A	00	00000000	09A	0D	10111101	0DA	79	01111001	11A	00	00000000	15A	D0	11011000	19A	CD	11001101	1DA	DF	11011111
01B	18	00011000	05B	5C	01011100	09B	20	00100000	0DB	5D	01011010	11B	1A	00011010	15B	52	01010010	19B	40	01000000	1DB	D9	11011001
01C	10	00011101	05C	00	00000000	09C	00	00000000	0DC	0F	11011111	11C	1C	00011100	15C	26	00100110	19C	05	00000101	1DC	D2	11010010
01D	00	00000000	05D	5F	01011111	09D	00	00000000	0DD	71	01110001	11D	67	01100111	15D	8F	10001111	19D	31	00110001	1DD	CE	11001110
01E	55	01010101	05E	00	00000000	09E	D7	11010111	0DE	CE	11001110	11E	42	01000010	15E	00	10001000	19E	05	00000101	1DE	50	01011000
01F	00	00000000	05F	00	11010000	09F	00	00000000	0DF	F0	11111000	11F	1F	00101000	15F	00	10001000	19F	95	10010101	1DF	F9	11111001
020	24	00100100	060	02	00000010	0A0	A0	10100000	0E0	03	10000011	120	A6	10100110	160	64	01100100	1A0	A5	10100101	1E0	0F	00001111
021	21	00100001	061	61	01100001	0A1	00	10000000	0E1	F2	11100010	121	69	01101001	161	00	10001000	1A1	A5	10100100	1E1	05	00000101
022	40	01000000	062	67	01100111	0A2	A2	10100010	0E2	6E	01101110	122	07	10000111	162	60	01101011	1A2	E0	11100000	1E2	90	10011000
023	12	00010010	063	02	00000010	0A3	E1	11100001	0E3	00	10000000	123	00	00000000	163	80	10001000	1A3	04	00000100	1E3	06	10000110
024	A8	10101011	064	64	01100100	0A4	A9	10101001	0E4	E1	11100001	124	6A	01101010	164	6C	01101100	1A4	A4	10100100	1E4	F0	11110000
025	25	00100101	065	0A	10001010	0A5	00	00000000	0E5	EE	11101110	125	25	00100101	165	1E	00011110	1A5	0C	00001100	1E5	96	10010110
026	00	00000000	066	40	01001000	0A6	25	00100101	0E6	00	00000000	126	A6	10100110	166	6F	01101111	1A6	0A	00001010	1E6	0E	10001110
027	70	01111000	067	00	00000000	0A7	00	00000000	0E7	00	00000000	127	31	00110001	167	52	01010010	1A7	01	10110001	1E7	E0	11101000
028	00	00001000	068	92	10010010	0A8	00	10111000	0E8	09	10001001	128	7E	01111110	168	0D	10001101	1A8	7C	01111100	1E8	A5	10100101
029	29	00101001	069	6A	01101010	0A9	01	10110001	0E9	D9	11011001	129	3C	00111100	169	F2	11110010	1A9	54	01010100	1E9	6D	01101101
02A	42	01000010	06A	50	01011000	0AA	7E	01111110	0EA	79	01111001	12A	00	00000000	16A	04	00000100	1AA	30	00110000	1EA	9A	10011010
02B	04	00000100	06B	22	00100010	0AB	AC	10101100	0EB	0A	10110101	12B	30	00111011	16B	80	10000000	1AB	54	01010100	1EB	D9	11101001
02C	14	00010100	06C	F0	11110000	0AC	AC	10100100	0EC	00	00000000	12C	00	00000000	16C	6C	01101100	1AC	CF	11001111	1EC	6D	01101101
02D	2D	00101101	06D	04	10110100	0AD	AD	10101101	0ED	52	01010101	12D	51	01010001	16D	6D	01101101	1AD	54	01010100	1ED	ED	11101101
02E	30	00111000	06E	E3	11100011	0AE	25	00100101	0EE	AD	10101101	12E	00	00000000	16E	06	10000110	1AE	A9	10101001	1EE	4D	01001101
02F	D3	11010011	06F	75	01110101	0AF	08	00001000	0EF	F5	11110101	12F	00	00000000	16F	F2	11110010	1AF	54	01010100	1EF	6D	01101101
030	31	00110001	070	A6	10100110	0B0	90	10010000	0F0	F5	11110101	130	30	00111000	170	71	01110001	1B0	C9	11001001	1F0	16	00010110
031	FF	11111111	071	F5	11110101	0B1	00	00000000	0F1	00	00000000	131	36	00110110	171	75	01110001	1B1	C0	11001000	1F1	F1	11110001
032	18	00011000	072	46	01000110	0B2	AC	10101100	0F2	86	10000110	132	00	00000000	172	7C	01111100	1B2	06	10000110	1F2	9E	10011110
033	01	00000001	073	4F	01001111	0B3	5D	01011101	0F3	00	00000000	133	2A	00101010	173	03	10000011	1B3	20	00100000	1F3	0C	10001100
034	02	00000010	074	41	01000001	0B4	F4	11110100	0F4	09	10001001	134	DC	11011100	174	9A	10011010	1B4	30	00111			

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
200	00	00000000	240	5C	01011100	280	91	10010001	2C0	00	00000000	300	00	00000000	340	00	00000000	380	00	00000000	3C0	00	00000000
201	0F	00001111	241	0F	00001111	281	2D	00101101	2C1	2D	00101101	301	01	00000001	341	00	00000000	381	01	00000001	3C1	00	00000000
202	00	10110000	242	00	00001000	282	08	00001000	2C2	1E	00011110	302	02	00000010	342	00	00000000	382	00	00000000	3C2	00	00000000
203	8A	10001010	243	53	01010011	283	0F	00001111	2C3	81	10000001	303	03	00000011	343	7E	01111110	383	73	01110011	3C3	00	00000000
204	69	01101001	244	F0	11110000	284	94	10010100	2C4	00	00000000	304	04	00000100	344	0C	00001100	384	00	00000000	3C4	00	00000000
205	06	00000110	245	EE	11101110	285	A1	10100001	2C5	00	00000000	305	05	00000101	345	00	00000000	385	00	00000000	3C5	00	00000000
206	15	00010101	246	EC	11101100	286	9D	10011101	2C6	E1	11100001	306	06	00000110	346	00	00000000	386	69	01101001	3C6	00	00000000
207	09	10111001	247	C3	11000011	287	76	01101110	2C7	CA	11001010	307	07	00000111	347	00	00000000	387	70	01110000	3C7	C0	11001011
208	DA	11011010	248	35	00110101	288	C3	11000011	2C8	00	00000000	308	00	00001000	348	00	00000000	388	00	00000000	3C8	00	00000000
209	6C	01101100	249	0F	00001111	289	20	00101101	2C9	00	00000000	309	09	00001001	349	4E	01001110	389	C3	11000011	3C9	00	00000000
20A	0C	00001100	24A	10	00010000	28A	10	00010000	2CA	E2	11100010	30A	0A	00000101	34A	00	00000000	38A	00	00000000	3CA	C9	11001001
20B	00	00000000	24B	53	01010011	28B	00	00001011	2CB	DE	11011110	30B	00	00001011	34B	4C	01001100	38B	44	01000100	3CB	00	00000000
20C	D5	11010101	24C	5D	01011101	28C	94	10010100	2CC	20	00100000	30C	0C	00001100	34C	4D	01001101	38C	00	00000000	3CC	00	00000000
20D	14	00010100	24D	6D	01101101	28D	A5	10100101	2CD	DC	11011100	30D	0D	00001101	34D	04	10101000	38D	C3	11000011	3CD	00	00000000
20E	0E	10001110	24E	61	01100001	28E	CC	11001100	2CE	FD	11111101	30E	0E	00001110	34E	40	01000000	38E	00	00000000	3CE	00	00000000
20F	F1	11110001	24F	00	00000000	28F	9A	10011010	2CF	00	00000000	30F	0F	00001111	34F	3D	00111101	38F	44	01000100	3CF	00	00000000
210	11	00010001	250	65	01100101	290	88	10001000	2D0	00	00000000	310	10	00010000	350	00	00000000	390	00	00000000	3D0	00	00000000
211	0F	00001111	251	0F	00001111	291	20	00101101	2D1	2D	00101101	311	11	00010001	351	00	00000000	391	95	10010101	3D1	CC	11001100
212	AC	10101100	252	20	00100000	292	20	00100000	2D2	91	10010001	312	12	00010010	352	83	10110011	392	00	00000000	3D2	00	00000000
213	80	10100001	253	2E	00101110	293	03	00000011	2D3	00	00000000	313	13	00010011	353	9A	10011010	393	80	10000000	3D3	00	00000000
214	29	00101001	254	E0	11100000	294	94	10010100	2D4	AE	10101110	314	14	00010100	354	00	00000000	394	00	00000000	3D4	00	00000000
215	07	00000111	255	00	00000000	295	97	10010111	2D5	08	11011000	315	15	00010101	355	00	00000000	395	99	10011001	3D5	F2	11110010
216	96	10010110	256	60	01100000	296	68	01101000	2D6	08	11011000	316	16	00010110	356	86	10110110	396	00	00000000	3D6	15	00010101
217	C0	11001011	257	00	00000000	297	C8	11001011	2D7	00	00000000	317	17	00010111	357	69	01101001	397	95	10010101	3D7	F0	11110000
218	1C	00011100	258	5C	01011100	298	00	00000000	2D8	F2	11110010	318	18	00011000	358	00	00000000	398	00	00000000	3D8	00	00000000
219	0F	00001111	259	0F	00001111	299	99	10011001	2D9	9A	10011010	319	19	00011001	359	00	00000000	399	85	10000101	3D9	00	00000000
21A	00	10100000	25A	20	00100000	29A	95	10010101	2DA	0A	00011010	31A	1A	00011010	35A	86	10110110	39A	00	00000000	3DA	8E	10111110
21B	03	00000011	25B	4E	01001110	29B	72	01110010	2DB	9A	10011010	31B	1B	00011011	35B	69	01101001	39B	78	01111011	3DB	F9	11111001
21C	1D	00011101	25C	52	01010010	29C	A0	10100000	2DC	AC	10101100	31C	1C	00011100	35C	00	00000000	39C	00	00000000	3DC	0A	00001010
21D	68	01101000	25D	79	01111001	29D	0F	00001111	2DD	00	00000000	31D	1D	00011101	35D	C3	11000011	39D	7F	01111111	3DD	E5	11100101
21E	F2	11110010	25E	64	01100100	29E	8E	10001110	2DE	00	00001101	31E	1E	00011110	35E	00	00000000	39E	00	00000000	3DE	00	00000000
21F	F2	11110010	25F	A2	10100010	29F	F8	11111000	2DF	E1	11100001	31F	1F	00011111	35F	50	01010000	39F	7F	01111111	3DF	80	10001000
220	28	00101000	260	63	01100011	2A0	81	10110001	2E0	00	00000000	320	00	00000000	360	00	00000000	3A0	00	00000000	3E0	00	00000000
221	0F	00001111	261	0F	00001111	2A1	A2	10100010	2E1	E1	11100001	321	00	00000000	361	50	01010000	3A1	8D	10001101	3E1	8A	10001010
222	85	10110101	262	05	10110101	2A2	A4	10100100	2E2	E1	11100001	322	26	00100110	362	00	00000000	3A2	00	00000000	3E2	15	00010101
223	82	10000010	263	10	00010000	2A3	89	10110001	2E3	98	10011000	323	2D	00101101	363	C3	11000011	3A3	88	10001000	3E3	F0	11110000
224	31	00110001	264	07	00000111	2A4	6E	01101110	2E4	00	00000000	324	00	00000000	364	00	00000000	3A4	00	00000000	3E4	00	00000000
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226	06	10000110	266	6C	01101100	2A6	F8	11111000	2E6	E6	11100110	326	2D	00101101	366	00	00000000	3A6	A6	10101110	3E6	00	00000000
227	D6	11010110	267	6F	01101111	2A7	A8	10101000	2E7	EA	11101010	327	2C	00101100	367	44	01000100	3A7	90	10010000	3E7	C3	11000011
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22B	0D	00001101	26B	69	01101001	2AB	FE	11111110	2EB	23	00100011	32B	F2	11110010	36B	F8	11111000	3AB	A0	10100000	3EB	4F	01001111
22C	26	00100110	26C	02	00000010	2AC	00	00000000	2EC	00	00000000	32C	00	00000000	36C	00	00000000	3AC	00	00000000	3EC	00	00000000
22D	24	00100100	26D	00	00001000	2AD	10	00010000	2ED	00	00000000	32D	00	00000000	36D	00	00000000	3AD	AD	10101101	3ED	00	00000000
22E	44	01000100	26E	FC	11111100	2AE	E9	11101001	2EE	BD	10111101	32E	34	00110100	36E	A3	10100011	3AE	00	00000000	3EE	00	00000000
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HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT	HEX LOC	HEX DAT	0IN DAT
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004	54	01010100	044	58	01011000	084	6A	01101010	0C4	55	01010101	104	51	01010001	144	55	01010101	184	55	01010101	1C4	D5	11010101
005	60	01100000	045	54	01010100	085	13	00010011	0C5	88	10001000	105	D5	11010101	145	55	01010101	185	55	01010101	1C5	61	01100001
006	54	01010100	046	70	01110000	086	60	01100000	0C6	55	01010101	106	55	01010101	146	81	10000001	186	55	01010101	1C6	ED	11101101
007	54	01010100	047	70	01110000	087	68	01101000	0C7	14	00010100	107	56	01010110	147	41	01000001	187	55	01010101	1C7	55	01010101
008	54	01010100	048	54	01010100	088	D4	11010100	0C8	55	01010101	108	54	01010100	148	06	00000110	188	60	01101000	1C8	69	01101001
009	54	01010100	049	60	01100000	089	7C	01111100	0C9	54	01010100	109	61	01100001	149	55	01010101	189	54	01010100	1C9	6A	01101010
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00B	54	01010100	04B	54	01010100	08B	D4	11010100	0CB	D4	11010100	10B	04	00000100	14B	06	00000110	18B	54	01010100	1CB	55	01010101
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00E	55	01010101	04E	57	01010111	08E	60	01100000	0CE	54	01010100	10E	55	01010101	14E	55	01010101	18E	E1	11100001	1CE	55	01010101
00F	A8	10101000	04F	54	01010100	08F	E8	11101011	0CF	D4	11010100	10F	56	01010110	14F	55	01010101	18F	55	01010101	1CF	55	01010101
010	54	01010100	050	58	01011000	090	54	01010100	0D0	78	01111000	110	59	01011001	150	61	01100001	190	55	01010101	1D0	55	01010101
011	D4	11010100	051	54	01010100	091	27	00100111	0D1	54	01010100	111	54	01010100	151	D5	11010101	191	55	01010101	1D1	55	01010101
012	14	00010100	052	54	01010100	092	70	01111000	0D2	54	01010100	112	70	01111000	152	39	00111001	192	05	00000101	1D2	60	01101101
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015	60	01100000	055	D5	11010101	095	54	01010100	0D5	54	01010100	115	55	01010101	155	56	01010110	195	98	10011000	1D5	55	01010101
016	78	01111000	056	54	01010100	096	60	01100000	0D6	54	01010100	116	54	01010100	156	D5	11010101	196	55	01010101	1D6	D4	11010100
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02A	14	00010100	06A	50	01011000	0AA	55	01010101	0EA	90	10010000	12A	70	01111000	16A	39	00111001	1AA	50	01011011	1EA	12	00010010
02B	54	01010100	06B	81	10000001	0AB	D4	11010100	0EB	21	00100001	12B	55	01010101	16B	55	01010101	1AB	54	01010100	1EB	56	01010110
02C	54	01010100	06C	69	01101001	0AC	D4	11010100	0EC	F8	11111000	12C	78	01111000	16C	39	00111001	1AC	54	01010100	1EC	55	01010101
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201	E8 11101000		241	E8 11101000		281	E8 11101000		2C1	E8 11101000		301	57 01010111		341	00 00000000		381	63 01100011		3C1	40 01001011	
202	65 01100101		242	54 01010100		282	54 01010100		2C2	54 01010100		302	57 01010111		342	57 01010111		382	57 01010111		3C2	4F 01001111	
203	E9 11101001		243	56 01010110		283	54 01010100		2C3	D7 11010111		303	57 01010111		343	E8 11101000		383	56 01010110		3C3	53 01010011	
204	54 01010100		244	69 01101001		284	56 01010110		2C4	A8 10101000		304	57 01010111		344	D4 11010100		384	57 01010111		3C4	5F 01011111	
205	56 01010110		245	55 01010101		285	47 01000111		2C5	20 00100000		305	57 01010111		345	57 01010111		385	00 00000000		3C5	63 01100011	
206	D6 11010110		246	55 01010101		286	56 01010110		2C6	57 01010111		306	57 01010111		346	57 01010111		386	54 01010100		3C6	67 01100111	
207	54 01010100		247	54 01010100		287	22 00100010		2C7	22 00100010		307	57 01010111		347	57 01010111		387	56 01010110		3C7	57 01010111	
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209	54 01010100		249	E8 11101000		289	E8 11101000		2C9	80 10000000		309	57 01010111		349	56 01010110		389	54 01010100		3C9	73 01110011	
20A	56 01010110		24A	54 01010100		28A	54 01010100		2CA	22 00100010		30A	57 01010111		34A	57 01010111		38A	57 01010111		3CA	57 01010111	
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20C	57 01010111		24C	47 01000111		28C	56 01010110		2CC	54 01010100		30C	57 01010111		34C	57 01010111		38C	00 00000000		3CC	7F 01111111	
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21B	56 01010110		25B	27 00100111		29B	01 00000001		2DB	54 01010100		31B	57 01010111		35B	17 00010111		39B	56 01010110		3DB	68 01101011	
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21D	55 01010101		25D	13 00010011		29D	54 01010100		2DD	57 01010111		31D	57 01010111		35D	54 01010100		39D	56 01010110		3DD	47 01000111	
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221	E8 11101000		261	E8 11101000		2A1	56 01010110		2E1	56 01010110		321	58 01010111		361	56 01010110		3A1	56 01010110		3E1	69 01101001	
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223	91 10010001		263	ED 11011101		2A3	57 01010111		2E3	54 01010100		323	D6 11010110		363	54 01010100		3A3	56 01010110		3E3	63 01100011	
224	63 01100011		264	54 01010100		2A4	57 01010111		2E4	57 01010111		324	18 00011011		364	57 01010111		3A4	13 00010011		3E4	00 00000000	
225	56 01010110		265	EA 11101010		2A5	63 01100011		2E5	57 01010111		325	57 01010111		365	54 01010100		3A5	47 01000111		3E5	54 01010100	
226	A8 10101000		266	56 01010110		2A6	67 01100111		2E6	5A 01011010		326	D6 11010110		366	00 00000000		3A6	58 01011011		3E6	00 00000000	
227	55 01010101		267	54 01010100		2A7	D6 11010110		2E7	56 01010110		327	56 01010110		367	D4 11010100		3A7	56 01010110		3E7	54 01010100	
228	D6 11010110		268	5D 01011101		2A8	2A 00101010		2E8	57 01010111		328	57 01010111		368	57 01010111		3A8	57 01010111		3E8	00 00000000	
229	E8 11101000		269	E8 11101000		2A9	56 01010110		2E9	57 01010111		329	55 01010101		369	56 01010110		3A9	57 01010111		3E9	00 00000000	
22A	65 01100101		26A	57 01010111		2AA	57 01010111		2EA	5A 01011010		32A	57 01010111		36A	57 01010111		3AA	57 01010111		3EA	78 01111000	
22B	D5 11010101		26B	54 01010100		2AB	56 01010110		2EB	57 01010111		32B	57 01010111		36B	57 01010111		3AB	56 01010110		3EB	68 01101000	
22C	57 01010111		26C	69 01101001		2AC	57 01010111		2EC	57 01010111		32C	57 01010111		36C	57 01010111		3AC	23 00100011		3EC	78 01111000	
22D	56 01010110		26D	54 01010100		2AD	54 01010100		2ED	57 01010111		32D	57 01010111		36D	57 01010111		3AD	47 01000111		3ED	78 01111000	
22E	3A 00111010		26E	55 01010101		2AE	5D 01011101		2EE	54 01010100		32E	D5 11010101		36E	56 01010110		3AE	27 00100111		3EE	00 00000000	
22F	56 01010110		26F	55 01010101		2AF	56 01011110		2EF	D6 11010110		32F	17 00010111		36F	00 00000000		3AF	D6 11010110		3EF	57 01010111	
230	56 01010110		270	57 01010111		2B0	56 01010110		2F0	57 01010111		330	57 01010111		370	57 01010111		3B0	57 01010111		3F0	54 01010100	
231	E8 11101000		271	E8 11101000		2B1	62 01100010		2F1	57 01010111		331	56 01010110		371	4F 01001111		3B1	47 01000111		3F1	22 00100010	
232	55 01010101		272	27 00100111		2B2	A0 10100000		2F2	5A 01010101		332	57 01010111		372	57 01010111		3B2	57 01010111		3F2	56 01010110	
233	E9 11101001		273	56 01010110		2B3	78 01111000		2F3	18 00011011		333	D7 11010111		373	56 01010110		3B3	D6 11010110		3F3	00 00000000	
234	68 01101000		274	D6 11010110		2B4	08 00001000		2F4	57 01010111		334	57 01010111		374	57 01010111</							

G.M. HAFNER, (1106-1588-FPA)GLFPIV, DPL, SCALE 2, "D", RELEASE BOX
G.M. HAFNER GLFPIV, PLOT(1106-1588) 27-OCT-81 1735

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REVISIONS		
CHK	CHANGE NO.	REV

digital
DSK:GLFPIV.T2P(1106-1588)127-OCT-81 1735
FIRST USED ON OPTION/MODEL: 11/730

DATE ENG. 27-OCT-81
DATE BOARD LOCATION: 11 21
SHEET 1 OF 21
NEXT HIGHER ASSEMBLY: 8-DD-M8389-0-0

TITLE: F.P. ACCEL. ROM
AND PAL LISTINGS
SIZE CODE D GL
NUMBER M8389-0-0
REV. A

PART NUMBER: 23-163F3-00, PAGE 1
DEVICE TYPE: 1024 X 8
SCHEMATIC SHEET #: D-CS-M8389-0-FPAN
LOCATION/DESCRIPTION: E6 / UCODE(16-23)
LEFT COLUMN OF BIN DATA IS MSB
BINARY DATA "1" = HIGH
BINARY DATA "0" = LOW

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
000	35 00110101		040	49 01001001		080	8D 10001101		0C0	35 00110101		100	C1 11000001		140	01 00000001		180	12 00010010		1C0	01 00000001	
001	35 00110101		041	80 10000000		081	8D 10001101		0C1	51 01010001		101	C1 11000001		141	01 00000001		181	41 01000001		1C1	41 01000001	
002	C1 11000001		042	82 10000010		082	8D 10001101		0C2	01 00000001		102	89 10001001		142	C1 11000001		182	01 00000001		1C2	81 10000001	
003	81 10000001		043	82 10000010		083	01 00000001		0C3	10 00010000		103	C1 11000001		143	C1 11000001		183	C1 11000001		1C3	91 10010001	
004	91 10010001		044	35 00110101		084	01 00000001		0C4	02 00000010		104	01 00000001		144	02 00000010		184	02 00000010		1C4	00 00000000	
005	01 00000001		045	39 00111001		085	C1 11000001		0C5	33 00110011		105	89 10001001		145	41 01000001		185	02 00000010		1C5	8D 10001101	
006	09 00001001		046	01 00000001		086	01 00000001		0C6	02 00000010		106	02 00000010		146	4D 01001101		186	01 00000001		1C6	13 00010011	
007	01 00000001		047	01 00000001		087	01 00000001		0C7	02 00000010		107	01 00000001		147	01 00000001		187	02 00000010		1C7	01 00000001	
008	49 01001001		048	11 00010001		088	50 01010000		0C8	01 00000001		108	11 00010001		148	01 00000001		188	02 00000010		1C8	01 00000001	
009	C1 11000001		049	C1 11000001		089	01 00000001		0C9	C1 11000001		109	01 00000001		149	01 00000001		189	03 00000011		1C9	01 00000001	
00A	13 00010011		04A	00 00000000		08A	01 00000001		0CA	01 00000001		10A	11 00010001		14A	01 00000001		18A	41 01000001		1CA	11 00010001	
00B	01 00000001		04B	81 10000001		08B	0D 00001101		0CB	10 00010000		10B	01 00000001		14B	01 00000001		18B	01 00000001		1CB	81 10000001	
00C	00 00000000		04C	39 00111001		08C	01 00000001		0CC	10 00010000		10C	01 00000001		14C	C1 11000001		18C	16 00010110		1CC	01 00000001	
00D	10 00010000		04D	C1 11000001		08D	0D 00001101		0CD	11 00010001		10D	01 00000001		14D	C3 11000011		18D	01 00000001		1CD	8D 10001101	
00E	C1 11000001		04E	01 00000001		08E	01 00000001		0CE	01 00000001		10E	01 00000001		14E	01 00000001		18E	89 10001001		1CE	41 01000001	
00F	93 10010011		04F	81 10000001		08F	90 10010000		0CF	10 00010000		10F	01 00000001		14F	01 00000001		18F	01 00000001		1CF	41 01000001	
010	81 10000001		050	35 00110101		090	51 01010001		0D0	01 00000001		110	35 00110101		150	49 01001001		190	02 00000010		1D0	41 01000001	
011	10 00010000		051	39 00111001		091	01 00000001		0D1	01 00000001		111	31 00110001		151	16 00010110		191	02 00000010		1D1	C1 11000001	
012	02 00000010		052	11 00010001		092	01 00000001		0D2	01 00000001		112	01 00000001		152	01 00000001		192	01 00000001		1D2	01 00000001	
013	7D 01111101		053	C1 11000001		093	01 00000001		0D3	13 00010011		113	01 00000001		153	16 00010110		193	01 00000001		1D3	01 00000001	
014	91 10010001		054	01 00000001		094	00 00000000		0D4	13 00010011		114	35 00110101		154	03 00000011		194	01 00000001		1D4	13 00010011	
015	89 10001001		055	11 00010001		095	09 00001001		0D5	11 00010001		115	31 00110001		155	41 01000001		195	13 00010011		1D5	0D 00001101	
016	01 00000001		056	11 00010001		096	01 00000001		0D6	41 01000001		116	01 00000001		156	49 01001001		196	81 10000001		1D6	16 00010110	
017	C9 11001001		057	C1 11000001		097	09 00001001		0D7	16 00010110		117	01 00000001		157	4D 01001101		197	C1 11000001		1D7	01 00000001	
018	82 10110010		058	35 00110101		098	0F 00001111		0D8	01 00000001		118	10 00010000		158	01 00000001		198	11 00010001		1D8	0D 00001101	
019	39 00111001		059	31 00110001		099	01 00000001		0D9	C1 11000001		119	41 00010100		159	96 10010110		199	05 00000101		1D9	13 00010011	
01A	89 10110001		05A	01 00000001		09A	07 00000111		0DA	00 00001101		11A	01 00000001		15A	02 00000010		19A	92 10010010		1DA	12 00010010	
01B	01 00000001		05B	8D 10001101		09B	01 00000001		0DB	01 00000001		11B	01 00000001		15B	01 00000001		19B	11 00010001		1DB	0D 00001101	
01C	D0 11010000		05C	8D 10001101		09C	01 00000001		0DC	01 00000001		11C	35 00110101		15C	01 00000001		19C	01 00000001		1DC	01 00000001	
01D	89 10110001		05D	0D 00001101		09D	0D 00001101		0DD	11 00010001		11D	31 00110001		15D	51 01010001		19D	11 00010001		1DD	81 10000001	
01E	01 00000001		05E	01 00000001		09E	01 00000001		0DE	41 01000001		11E	2C 00101100		15E	01 00000001		19E	01 00000001		1DE	81 10000001	
01F	90 10010000		05F	41 01000001		09F	01 00000001		0DF	C1 11000001		11F	01 00000001		15F	09 00001001		19F	01 00000001		1DF	01 00000001	
020	01 00000001		060	51 01010001		0A0	35 00110101		0E0	01 00000001		120	43 01000011		160	81 10000001		1A0	C9 11001001		1E0	11 00010001	
021	33 00110011		061	41 01000001		0A1	51 01010001		0E1	14 00010100		121	11 00010001		161	0D 00010101		1A1	12 00010010		1E1	41 01000001	
022	81 10000001		062	81 10000001		0A2	31 00110001		0E2	01 00000001		122	01 00000001		162	02 00000010		1A2	89 10001001		1E2	13 00010011	
023	39 00111001		063	D1 11010001		0A3	01 00000001		0E3	51 01010001		123	01 00000001		163	01 00000001		1A3	11 00010001		1E3	01 00000001	
024	01 00000001		064	C1 11000001		0A4	01 00000001		0E4	01 00000001		124	14 00010100		164	02 00000010		1A4	89 10001001		1E4	01 00000001	
025	39 00111001		065	7D 01111101		0A5	4B 01001011		0E5	01 00000001		125	25 00100101		165	96 10010110		1A5	09 00001001		1E5	01 00000001	
026	01 00000001		066	C1 11000001		0A6	89 10001001		0E6	03 00000011		126	13 00010011		166	02 00000010		1A6	11 00010001		1E6	02 00000010	
027	01 00000001		067	81 10000001		0A7	41 01000001		0E7	43 01000011		127	9B 10011011										

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
000	C0	11000000	040	C3	11000011	000	01	00000001	0C0	C0	11000000	100	FE	11111110	140	01	00000001	100	74	01110100	1C0	C8	11001000
001	C0	11000000	041	C8	11001000	001	01	00000001	0C1	C1	11000001	101	0C	10001100	141	C0	11000000	101	C4	11000100	1C1	CC	11001100
002	E7	11100111	042	E1	11100001	002	01	00000001	0C2	C0	11000000	102	01	00000001	142	C0	11000000	102	C2	11000010	1C2	D1	11010001
003	AF	10101111	043	E1	11100001	003	00	00000000	0C3	C0	11000000	103	CC	11001100	143	84	10000100	103	D1	11010001	1C3	C1	11000001
004	02	10000010	044	C0	11000000	004	C0	11000000	0C4	C0	11000000	104	C0	11000000	144	04	00000100	104	C8	11001000	1C4	C0	11000000
005	03	00000011	045	01	00000001	005	D1	11010001	0C5	00	00000000	105	01	00000001	145	00	00000000	105	C0	11000000	1C5	00	00000000
006	00	00000000	046	C0	11001000	006	80	10110000	0C6	C4	11000100	106	D4	11010100	146	00	00000000	106	C8	11001000	1C6	C8	11001000
007	C0	11000000	047	E5	11100101	007	C0	11000000	0C7	C0	11000000	107	F0	11110000	147	E4	11100100	107	C4	11000100	1C7	C4	11000100
008	C3	11000011	048	00	00000000	008	40	01000000	0C8	C0	11000000	108	91	10010001	148	C8	11001000	108	C8	11001000	1C8	C0	11000000
009	C3	11000011	049	01	00000001	009	C0	11000000	0C9	D1	11010001	109	91	10010001	149	C0	11000000	109	C0	11000000	1C9	C0	11000000
00A	CD	11001101	04A	D0	11011000	00A	C4	11000100	0CA	C0	11000000	10A	00	11000000	14A	C0	11000000	10A	C0	11000000	1CA	C0	11000000
00B	CD	11001101	04B	DE	11011110	00B	24	00100100	0CB	C0	11000000	10B	C0	11000000	14B	C0	11000000	10B	C0	11000000	1CB	C0	11000000
00C	D8	11011000	04C	01	00000001	00C	00	00000000	0CC	C0	11000000	10C	D0	11010000	14C	C0	11010000	10C	88	10001000	1CC	C4	11000100
00D	C0	11000000	04D	40	01000000	00D	00	00000000	0CD	C1	11000001	10D	D4	11010100	14D	CC	11001100	10D	E4	11100100	1CD	00	00000000
00E	FE	11111110	04E	C0	11000000	00E	80	10111000	0CE	02	00000010	10E	D0	11010000	14E	40	01000000	10E	00	00000000	1CE	D0	11010000
00F	00	00000000	04F	00	00000000	00F	00	00000000	0CF	C0	11000000	10F	F8	11111000	14F	00	00000000	10F	CC	11001100	1CF	0C	10001100
010	C2	11000010	050	C0	11000000	010	C0	11000000	0D0	C0	11000000	110	C0	11000000	150	01	00000001	110	C0	11000000	1D0	CC	11001100
011	CC	11001100	051	01	00000001	011	C5	11000101	0D1	C0	11000000	111	00	00000000	151	01	00000001	111	00	00000000	1D1	40	01000000
012	E0	11100000	052	C0	11000000	012	C0	11000000	0D2	C0	11000000	112	D0	11010000	152	C0	11000000	112	88	10001000	1D2	C0	11000000
013	02	00000010	053	8C	10001100	013	C0	11000000	0D3	C0	11000000	113	99	10011001	153	89	10001001	113	E8	11101000	1D3	C0	11000000
014	03	00000011	054	C0	11000000	014	40	01000000	0D4	E1	11100001	114	C0	11000000	154	00	00000000	114	E8	11101000	1D4	C0	11000000
015	03	00000011	055	C0	11000000	015	01	00000001	0D5	C1	11000001	115	00	00000000	155	00	00000000	115	D4	11010100	1D5	00	00000000
016	C0	11000000	056	C0	11000000	016	84	10110100	0D6	F9	11111001	116	C0	11000000	156	00	00000000	116	08	10001000	1D6	8B	10001000
017	FA	11111010	057	8C	10001100	017	01	00000001	0D7	00	00000000	117	F4	11110100	157	00	00000000	117	CC	11001100	1D7	FC	11111100
018	00	00000000	058	C0	11000000	018	C0	11000000	0D8	00	00000000	118	00	00000000	158	00	00000000	118	E0	11100000	1D8	01	00000001
019	01	00000001	059	00	00000000	019	C0	11000000	0D9	FF	11111111	119	00	00000000	159	80	10000000	119	00	00000000	1D9	C0	11000000
01A	00	00000000	05A	D1	11010001	01A	C0	11000000	0DA	20	00101000	11A	D0	11010000	15A	D0	11010000	11A	00	00000000	1DA	89	10001001
01B	C0	11000000	05B	01	00000001	01B	00	00000000	0DB	E0	11010000	11B	99	10011001	15B	D0	11010000	11B	C0	11000000	1DB	00	00000000
01C	00	00000000	05C	01	00000001	01C	00	00000000	0DC	D4	11010100	11C	C0	11000000	15C	14	00010100	11C	C0	11000000	1DC	C8	11001000
01D	00	00000000	05D	00	00000000	01D	24	00100100	0DD	01	11000001	11D	00	00000000	15D	40	01000000	11D	C0	11000000	1DD	C0	11000000
01E	C0	11000000	05E	D1	11010001	01E	FC	11111100	0DE	ED	11101101	11E	01	00000001	15E	C0	11000000	11E	C0	11000000	1DE	80	10000000
01F	9C	10011100	05F	40	01000000	01F	C0	11000000	0DF	D9	11011001	11F	FC	11111100	15F	24	00100100	11F	D0	11210000	1DF	D1	11010001
020	00	00000000	060	F8	11111011	020	C0	11000000	0E0	00	00000000	120	00	00000000	160	D5	11010101	120	00	00000000	1E0	01	00000001
021	02	00000010	061	03	00000011	021	C1	11000001	0E1	00	00000000	121	C0	11000000	161	00	00000000	121	00	00000000	1E1	01	00000001
022	F7	11110111	062	00	00000000	022	00	00000000	0E2	C0	11000000	122	C4	11000100	162	C4	11000100	122	01	00000001	1E2	E4	11100100
023	02	00000010	063	F7	11110111	023	C0	11000000	0E3	C1	11000001	123	00	00000000	163	C0	11000000	123	01	00000001	1E3	C0	11000000
024	00	00000000	064	03	00000011	024	00	00000000	0E4	C0	11000000	124	00	00000000	164	04	00000100	124	01	00000001	1E4	C0	11000000
025	01	00000001	065	00	00000000	025	E4	11100100	0E5	C0	11000000	125	89	10001001	165	80	10000000	125	01	00000001	1E5	40	01000000
026	C0	11000000	066	FD	11111101	026	01	00000001	0E6	00	00000000	126	11	00010001	166	14	00010100	126	C0	11000000	1E6	D0	11010000
027	C0	11000000	067	00	00000000	027	C0	11000000	0E7	C0	11000000	127	01	00000001	167	D0	11010000	127	C0	11000000	1E7	88	10001000
028	01	00000001	068	C0	11000000	028	40	01000000	0E8	F4	11110100	128	C9	11001001	168	C0	11000000	128	E5	11100101	1E8	10	00010000
029	02	00000010	069	C0	11000000	029	00	00000000	0E9	C0	11000000	129	D8	11011000	169	40	01000000	129	D4	11210100	1E9	C0	11000000
02A	02	00000010	06A	C0	11000000	02A	D4	11010100	0EA	20	00101000	12A	D0	11010000	16A	74	01110100	12A	C0	11000000	1EA	C4	11000100
02B	E8	11101011	06B	C0	11000000	02B	00	00000000	0EB	C0	11000000	12B	A9	10101001	16B	8C	10001100	12B	C4	11200100	1EB	04	00000100
02C	F7	11110111	06C	C0	11000000	02C	00	00000000	0EC	C0	11000000	12C	C0	11000000	16C	00	00000000	12C	C0	11200000	1EC	C0	11000000
02D	00	00000000	06D	00	00000000	02D	01	00000001	0ED	C0	11000000	12D	0D	10001101	16D	80	10000000	12D	C0	11200000	1ED	00	00000000
02E	C1	11000001	06E	00	00000000	02E	01	00000001	0EE	01	00000001	12E	C0	11000000	16E	00	00000000	12E	C8	11201000	1EE	C0	11000000
02F	9C	10011100	06F	00	00000000	02F	40	01000000	0EF	C4	11000100	12F	C0	11000000	16F	00	00000000	12F	C4	11200100	1EF	C0	11000000
030	C3	11000011	070	00	00000000	030	F4	11110100	0F0	01	00000001	130	C0	11000000	170	D1	11010001	130	D0	11210000	1F0	C0	11000000
031	C3	11000011	071	01	00000001	031	00	00000000	0F1	D1	11010001	131	99	10011001	171	80	10000000	131	C0	11200000	1F1	00	00000000
032	C0	11000000	072	C0	11000000	032	C0	11000000	0F2	C0	11000000	132	C4	11000100	172	C0	11000000	132	CC	11201100	1F2	88	10001000
033	C2	11000010	073	C0	11000000	033	80	10110000	0F3	D1	11010001	133	99	10011001	173	00	00000000	133	04	00000100	1F3	CC	11001100
034	C0	11000000	074	40	01000000	034	00	00000000	0F4	C0	11000000	134	01	00000001	174	04	00000100	134	C0	11200000	1F4	C8	11001000
035	00	00000000	075	C0	11000000	035	D2	11010010	0F5	00	00												

8			7			6			5			4			3			2			1		
HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
200	C0	11000000	240	C8	11001000	280	C0	11000000	2C0	00	00000000	300	C0	11000000	340	03	00000011	380	02	00000010	3C0	C0	11000000
201	00	00000000	241	00	00000000	281	00	00000000	2C1	00	00000000	301	C0	11000000	341	00	00000000	381	89	10001001	3C1	C0	11000000
202	C8	11001000	242	C1	11000001	282	C1	11000001	2C2	01	00000001	302	C0	11000000	342	00	00000000	382	11	00010001	3C2	C0	11000000
203	C8	11001000	243	C0	11000000	283	C0	11000000	2C3	01	00000001	303	C0	11000000	343	AE	10101110	383	89	10001001	3C3	C0	11000000
204	C0	11000000	244	C0	11000000	284	F7	11110111	2C4	00	00000000	304	C0	11000000	344	40	01000000	384	F5	11110101	3C4	C0	11000000
205	CC	11001100	245	40	01000000	285	C0	11000000	2C5	00	00000000	305	C0	11000000	345	C0	11000000	385	00	00000000	3C5	C0	11000000
206	C0	11000000	246	50	01010000	286	68	01101000	2C6	40	01000000	306	C0	11000000	346	C5	11000101	386	00	00000000	3C6	C0	11000000
207	C0	11000000	247	C0	11000000	287	C0	11000000	2C7	C8	11001000	307	C0	11000000	347	40	01000000	387	80	10110000	3C7	C0	11000000
208	8C	10001100	248	DC	11011100	288	C0	11000000	2C8	D1	11010001	308	C0	11000000	348	40	01000000	388	C2	11000010	3C8	C0	11000000
209	C0	11000000	249	00	00000000	289	00	00000000	2C9	00	00000000	309	C0	11000000	349	89	10001001	389	C0	11000000	3C9	C0	11000000
20A	00	00000000	24A	C1	11000001	28A	C1	11000001	2CA	C0	11000000	30A	C0	11000000	34A	C1	11000001	38A	01	00000001	3CA	C0	11000000
20B	C4	11000100	24B	C0	11000000	28B	C0	11000000	2CB	C0	11000000	30B	C0	11000000	34B	89	10001001	38B	C0	11000000	3CB	C0	11000000
20C	00	00000000	24C	D1	11010001	28C	F7	11110111	2CC	C1	11000001	30C	C0	11000000	34C	C2	11000010	38C	00	00000000	3CC	C0	11000000
20D	D0	11010000	24D	C0	11000000	28D	C8	11001000	2CD	01	00000001	30D	C0	11000000	34D	00	00000000	38D	C0	11000000	3CD	C0	11000000
20E	C8	11001000	24E	D1	11010001	28E	C0	11000000	2CE	D4	11010100	30E	C0	11000000	34E	C0	11000000	38E	FD	11111101	3CE	C0	11000000
20F	C4	11000100	24F	C4	11000100	28F	04	00000100	2CF	00	00000000	30F	C0	11000000	34F	C0	11000000	38F	C0	11000000	3CF	C0	11000000
210	C0	11000000	250	D1	11010001	290	D1	11010001	2D0	00	00000000	310	C0	11000000	350	01	00000001	390	C0	11000000	3D0	C0	11000000
211	00	00000000	251	00	00000000	291	00	00000000	2D1	00	00000000	311	C0	11000000	351	DC	11011100	391	C0	11000000	3D1	C0	11000000
212	F4	11110100	252	C1	11000001	292	C1	11000001	2D2	68	01101000	312	C0	11000000	352	C0	11000000	392	C1	11000001	3D2	00	00000000
213	C8	11001000	253	C0	11000000	293	C0	11000000	2D3	00	00000000	313	C0	11000000	353	04	00000100	393	C8	11001000	3D3	00	00000000
214	40	01000000	254	C0	11000000	294	80	10000000	2D4	C0	11000000	314	C0	11000000	354	02	00000010	394	C0	11000000	3D4	00	00000000
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218	FC	11111100	258	D8	11011000	298	C0	11000000	2D8	C0	11000000	318	C0	11000000	358	03	00000011	398	04	00000100	3D8	00	00000000
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21C	C4	11000100	25C	C0	11000000	29C	00	00000000	2DC	C0	11000000	31C	C0	11000000	35C	EC	11101100	39C	C0	11000000	3DC	C0	11000000
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21E	88	10001000	25E	D0	11010000	29E	C5	11000101	2DE	C8	11001000	31E	C0	11000000	35E	CD	11001101	39E	C0	11000000	3DE	00	00000000
21F	88	10001000	25F	D0	11010000	29F	00	00000100	2DF	40	01000000	31F	C0	11000000	35F	C4	11000100	39F	C8	11001000	3DF	D1	11010001
220	F8	11111000	260	C0	11000000	2A0	40	01000000	2E0	00	00000000	320	C0	11000000	360	F4	11110100	3A0	00	00000000	3E0	00	00000000
221	00	00000000	261	00	00000000	2A1	C0	11000000	2E1	C0	11000000	321	C0	11000000	361	C4	11000100	3A1	C0	11000000	3E1	C8	11001000
222	C2	11000010	262	F0	11110000	2A2	00	00000000	2E2	40	01000000	322	00	00000000	362	FC	11111100	3A2	01	00000001	3E2	C0	11000000
223	C2	11000010	263	C0	11000000	2A3	80	10000000	2E3	04	00000100	323	E0	11100000	363	C0	11000000	3A3	01	00000001	3E3	C0	11000000
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226	64	01100100	266	C0	11000000	2A6	C0	11000000	2E6	DD	11011101	326	E0	11100000	366	00	00000000	3A6	C0	11000000	3E6	00	00000000
227	8C	10001100	267	C0	11000000	2A7	C0	11000000	2E7	04	00000100	327	00	00000000	367	C0	11000000	3A7	DD	11011101	3E7	C0	11000000
228	C0	11000000	268	L0	11000000	2A8	00	00000000	2E8	10	00011101	328	02	00000010	368	08	00001000	3A8	C0	11000000	3E8	00	00000000
229	00	00000000	269	00	00000000	2A9	C0	11000000	2E9	01	00000001	329	C0	11000000	369	00	00000000	3A9	00	00000000	3E9	00	00000000
22A	04	00000100	26A	F0	11110000	2AA	00	00000000	2EA	00	00000000	32A	C3	11000011	36A	0C	00000100	3AA	C1	11000001	3EA	C0	11000000
22B	08	00001000	26B	00	00000000	2AB	C4	11000100	2EB	00	00000000	32B	C0	11000000	36B	3C	00111100	3AB	C8	11001000	3EB	C0	11000000
22C	00	00000000	26C	E5	11100101	2AC	00	00000000	2EC	C2	11000010	32C	73	00110011	36C	01	00000001	3AC	C0	11000000	3EC	C8	11001000
22D	C8	11001000	26D	C0	11000000	2AD	C0	11000000	2ED	26	00100110	32D	03	00000011	36D	DD	11011101	3AD	00	00000000	3ED	C0	11000000
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232	04	00000100	272	F9	11111001	2B2	00	00000000	2F2	DD	11011101	332	37	00110111	372	00	00000000	3B2	19	00011001	3F2	04	00000100
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HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT	HEX LOC	HEX DAT	8IN DAT
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001	86	10000110	041	06	00000110	081	F9	11111001	0C1	06	00000110	101	6F	01101111	141	A8	10101000	181	A8	10101000	1C1	A8	10101000
002	86	10000110	042	28	00101000	082	F9	11111001	0C2	86	10000110	102	D9	11011001	142	EF	11101111	182	A8	10101000	1C2	66	01100110
003	A8	10101011	043	28	00101000	083	C9	11001001	0C3	86	10000110	103	A8	10101000	143	ED	11101101	183	06	00000110	1C3	66	01100110
004	2D	00101101	044	86	10000110	084	86	10000110	0C4	86	10000110	104	86	10000110	144	A7	10100111	184	86	10000110	1C4	86	10000110
005	69	01101001	045	89	10001001	085	06	00000110	0C5	28	00101000	105	D9	11011001	145	A7	10100111	185	86	10000110	1C5	59	01011001
006	E9	11101001	046	86	10000110	086	AF	10101111	0C6	86	00000110	106	86	10000110	146	D9	11011001	186	28	00101000	1C6	28	00101000
007	86	10000110	047	86	10000110	087	86	10000110	0C7	86	10000110	107	95	10010101	147	86	10000110	187	06	00000110	1C7	9F	10011111
008	86	10000110	048	27	00100111	088	86	10000110	0C8	98	10011000	108	6F	01101111	148	A8	10101000	188	86	10000110	1C8	86	10000110
009	86	10000110	049	69	01101001	089	06	00000110	0C9	86	10000110	109	6F	01101111	149	86	10000110	189	86	10000110	1C9	86	10000110
00A	06	00000110	04A	28	00101000	08A	A8	10101000	0CA	98	10011000	10A	86	10000110	14A	06	00000110	18A	06	00000110	1CA	06	00000110
00B	06	00000110	04B	A8	10101000	08B	C9	11001001	0CB	86	10000110	10B	86	10000110	14B	86	10000110	18B	06	00000110	1CB	06	00000110
00C	28	00101000	04C	A8	10101000	08C	C9	11001001	0CC	86	10000110	10C	95	10010101	14C	A8	10101000	18C	DF	11011111	1CC	98	10011000
00D	86	10000110	04D	A9	10101001	08D	F9	11111001	0CD	06	00000110	10D	86	10000110	14D	A8	10101000	18D	98	10011000	1CD	49	01021001
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00F	A7	10100111	04F	F9	11111001	08F	27	00100111	0CF	86	10000110	10F	9A	10011010	14F	F9	11111001	18F	98	10011000	1CF	9F	10011111
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013	A8	10101000	053	6F	01101111	093	18	00011000	0D3	98	10011000	113	A5	10100101	153	4F	01001111	193	86	10000110	1D3	86	10000110
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015	79	01111001	055	06	00000110	095	E7	11100111	0D5	06	00000110	115	09	00001001	155	A7	10100111	195	98	10011000	1D5	F9	11111001
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01D	A8	10101000	05D	79	01111001	09D	F9	11111001	0DD	06	00000110	11D	09	00001001	15D	A9	10101001	19D	06	00000110	1DD	86	10000110
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020	D9	11011001	060	28	00101000	0A0	86	10000110	0E0	C9	11101001	120	A7	10100111	160	86	10000110	1A0	C9	11001001	1E0	27	00100111
021	28	00101000	061	69	01101001	0A1	06	00000110	0E1	C9	11101001	121	86	10000110	161	F9	11111001	1A1	AF	10101111	1E1	A7	10100111
022	06	00000110	062	F9	11111001	0A2	89	00001001	0E2	86	10000110	122	98	10011000	162	06	00000110	1A2	D9	11011001	1E2	98	10011000
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026	86	10000110	066	A8	10101000	0A6	59	01011001	0E6	A7	10100111	126	27	00100111	166	97	10010111	1A6	06	00000110	1E6	06	00000110
027	86	10000110	067	F9	11111001	0A7	06	00000110	0E7	06	00000110	127	67	01100111	167	A8	10101000	1A7	D9	11011001	1E7	A8	10101011
028	2D	00101101	068	18	00011000	0A8	A9	10101001	0E8	06	00000110	128	28	00101000	168	28	00101000	1A8	86	10000110	1E8	A9	10101001
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02A	A8	10101000	06A	86	10000110	0AA	86	10000110	0EA	C9	11001001	12A	A8	10101000	16A	29	00101001	1AA	86	10000110	1EA	06	00000110
02B	A8	10101000	06B	86	10000110	0AB	D9	11011001	0EB	86	10000110	12B	A5	10100101	16B	AD	10101101	1AB	86	10000110	1EB	27	00100111
02C	06	00000110	06C	86	10000110	0AC	D9	11011001	0EC	86	10000110	12C	06	00000110	16C	2F	00101111	1AC	86	10000110	1EC	06	00000110
02D	A8	10101000	06D	79	01111001	0AD	79	01111001	0ED	86	10000110	12D	AF	10101111	16D	2F	00101111	1AD	86	10000110	1ED	59	01011001
02E	06	00000110	06E	89	10001001	0AE	59	01011001	0EE	79	01111001	12E	06	00000110	16E	C9	11001001	1AE	06	00000110	1EE	86	10000110
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030	06	00000110	070	27	00100111	0B0	06	00000110	0F0	69	01101001	130	86	10000110	170	66	01100110	1B0	86	10000110	1F0	86	10000110
031	06	00000110	071	A7	10100111	0B1	D9	11011001	0F1	A8	10101000	131	A5	10100101	171	ED	11101101	1B1	86	10000110	1F1	59	01011001
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033	06	00000110	073	18	00011000	0B3	AF	10101111	0F3	AA	10101010	133	A5	10100101	173	E9	11101001	1B3	27	00100111	1F3	9F	10011111
034	86	10000110	074	A9	10101001	0B4	27	00100111	0F4	06	00000110	134	A7	10100111	174	49	01001001	1B4	06	00000110	1F4	86	10000110

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HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT	HEX LOC	HEX DAT	BIN DAT
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201	A7	10100111	241	A7	10100111	281	A7	10100111	2C1	A7	10100111	301	85	10000110	341	00	00000000	381	5F	01011111	3C1	85	10000110
202	18	00011000	242	05	00000110	282	05	00000110	2C2	27	00100111	302	85	10000110	342	F9	11111001	382	29	00001001	3C2	85	10000110
203	85	10000110	243	85	10000110	283	05	00000110	2C3	09	11011001	303	85	10000110	343	95	10010101	383	2D	11011101	3C3	85	10000110
204	85	10000110	244	85	10000110	284	05	00000110	2C4	00	00000000	304	85	10000110	344	A9	10101001	384	28	00101000	3C4	85	10000110
205	A8	10101000	245	A9	10101001	285	98	10011000	2C5	00	00000000	305	85	10000110	345	85	10000110	385	00	00000000	3C5	85	10000110
206	85	10000110	246	A8	10101011	286	29	00101001	2C6	A9	10101001	306	85	10000110	346	28	00101000	386	A7	10100111	3C6	85	10000110
207	05	00000110	247	85	10000110	287	85	10000110	2C7	85	10000110	307	85	10000110	347	A9	10101001	387	AF	10101111	3C7	85	10000110
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02A	67 01100111		06A	C7 11000111		0AA	47 01000111		0EA	48 01001011		12A	45 01000101		16A	45 01000101		1AA	07 00000111		1EA	4D 01001101	
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201	07 00000111		241	07 00000111		281	07 00000111		2C1	07 00000111		301	27 00100111		341	00 00000000		381	64 01100100		3C1	47 01000111	
202	25 00100101		242	28 00101000		282	28 00101000		2C2	28 00100000		302	27 00100111		342	1E 00011110		382	4D 01001101		3C2	07 00000111	
203	60 01100000		243	27 00100111		283	40 01000000		2C3	27 00100111		303	07 00000111		343	07 00000111		383	27 00100111		3C3	47 01000111	
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20A	47 01000111		24A	28 00101000		28A	28 00101000		2CA	27 00100111		30A	07 00000111		34A	16 00010110		38A	67 01100111		3CA	07 00000111	
20B	2E 00101110		24B	27 00100111		28B	60 01100000		2CB	27 00100111		30B	27 00100111		34B	27 00100111		38B	47 01000111		3CB	27 00100111	
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20E	25 00100101		24E	27 00100111		28E	27 00100111		2CE	20 00100000		30E	27 00100111		34E	67 01100111		38E	2D 00101101		3CE	27 00100111	
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210	27 00100111		250	27 00100111		290	47 01000111		2D0	67 01100111		310	27 00100111		350	47 01000111		390	47 01000111		3D0	67 01100111	
211	07 00000111		251	07 00000111		291	07 00000111		2D1	07 00000111		311	07 00000111		351	47 01000111		391	27 00100111		3D1	40 01001101	
212	4D 01001101		252	28 00101000		292	28 00101000		2D2	05 00000101		312	07 00000111		352	6D 01101101		392	2D 00101101		3D2	00 00000000	
213	00 00000000		253	47 01000111		293	40 01000000		2D3	00 00000000		313	27 00100111		353	0E 00001110		393	27 00100111		3D3	00 00000000	
214	67 01100111		254	2D 00101101		294	44 01000100		2D4	67 01100111		314	07 00000111		354	47 01000111		394	47 01000111		3D4	00 00000000	
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21A	25 00100101		25A	28 00101000		29A	2D 00101101		2DA	00 00000000		31A	27 00100111		35A	2D 00101101		39A	4D 01001101		3DA	6D 01101101	
21B	27 00100111		25B	47 01000111		29B	07 00000111		2DB	47 01000111		31B	07 00000111		35B	6E 01101110		39B	68 01101000		3DB	27 00100111	
21C	67 01100111		25C	27 00100111		29C	07 00000111		2DC	27 00100111		31C	27 00100111		35C	47 01000111		39C	47 01000111		3DC	6D 01101101	
21D	07 00000111		25D	28 00101011		29D	48 01001000		2DD	07 00000111		31D	07 00000111		35D	67 01100111		39D	67 01100111		3DD	47 01000111	
21E	67 01100111		25E	47 01000111		29E	69 01101001		2DE	6D 01101101		31E	07 00000111		35E	2D 00101101		39E	07 00000111		3DE	00 00000000	
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226	09 00001001		266	27 00100111		2A6	27 00100111		2E6	CD 11001101		326	6D 01101101		366	00 00000000		3A6	47 01000111		3E6	00 00000000	
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228	4D 01001101		268	67 01100111		2A8	68 01101000		2E8	4D 01001101		328	67 01100111		368	4D 01001101		3A8	6D 01101101		3E8	00 00000000	
229	07 00000111		269	07 00000111		2A9	07 00000111		2E9	67 01100111		329	67 01100111		369	27 00100111		3A9	67 01100111		3E9	00 00000000	
22A	0E 00001110		26A	2D 00101101		2AA	47 01000111		2EA	ED 11101101		32A	2D 00101101		36A	4D 01001101		3AA	2D 00101101		3EA	27 00100111	
22B	29 00101001		26B	67 01100111		2AB	0E 00001110		2EB	4E 01001110		32B	27 00100111		36B	0D 00001101		3AB	04 00000100		3EB	47 01000111	
22C	47 01000111		26C	6D 01100000		2AC	27 00100111		2EC	2D 00101101		32C	4D 01001101		36C	27 00100111		3AC	07 00000111		3EC	4D 01001101	
22D	6D 01101101		26D	68 01101000		2AD	47 01000111		2ED	4D 01001101		32D	27 00100111		36D	6D 01101101		3AD	67 01100111		3ED	27 00100111	
22E	27 00100111		26E	00 00000000		2AE	25 00100101		2EE	47 01000111		32E	67 01100111		36E	27 00100111		3AE	47 01000111		3EE	00 00000000	
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230	47 01000111		270	28 00101011		2B0	07 00000111		2F0	27 00100111		330	6D 01101101		370	67 01100111		3B0	2D 00101101		3F0	67 01100111	
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232	0E 00001110		272	4D 01001101		2B2	00 00000000		2F2	CD 11001101		332	4D 01001101		372	27 00100111		3B2	4D 01001101		3F2	27 00100111	
233	2F 00101111		273	07 00000111		2B3	27 00100111		2F3	0D 00001101		333	27 00100111		373	07 00000111		3B3	64 01100100		3F3	00 00000000	
234	07 00000111		274	27 00100111																			

